TOWN OF GARRETT PARK

SAFE ROUTES TO SCHOOL SIDEWALK (SRTS) PROJECT
TOWN OF GARRETT PARK, MARYLAND

S.H.A. CONTRACT NO. XXXXXXXX, F.A.P. NO. XXXXXXXXX

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL," MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES EXECUTIVE REGULATIONS 5-90, 7-02AM AND 36-90, AND MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION "STORM DRAIN DESIGN CRITERIA" DATED AUGUST 1988.

Design Engineer _____ Signature Date _____

Printed Name _____ Registration Number _____

CERTIFICATION OF THE QUANTITIES

I HEREBY CERTIFY THAT THE ESTIMATED TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO 500.0 CUBIC YARDS OF EXCAVATION, 500.0 CUBIC YARDS OF FILL AND THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE 49,565 SQUARE FEET.

Signature _____ Date _____

Printed Name and Title _____ Registration Number _____

OWNER'S/DEVELOPER'S CERTIFICATION

I/WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, AND OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

Signature _____ Date _____

Printed Name and Title _____

RECORD DRAWING CERTIFICATION

A record set of approved Sediment Control/Stormwater Management plans must be maintained on-site at all times. In addition to stormwater management items, these plans must include the number and location of all trees proposed to be planted to comply with the Tree Canopy Law. Any approved modifications or deletions of stormwater practices or tree canopy plantings or information must be shown on this record set of plans and on the Tree Canopy Requirements table. Upon completion of the project, this record set of plans, including hereon this signed Record Drawing Certification, must be submitted to the MCDPS inspector. In addition to this Record Drawing Certification, a formal Stormwater Management As-Built submission [ ] **is required** [ ] **is not required** for this project.

If this project is subject to a **Stormwater Management Right of Entry and Maintenance Agreement, that document is recorded in Montgomery County Land Records at:**

Liber _____ **Folio** _____ . This Record Drawing will serve as referenced in the recorded document.

"This record drawing accurately and completely represents the stormwater management practices and tree canopy plantings as they were constructed or planted. All stormwater management practices were constructed per the approved Sediment Control / Stormwater Management plans or subsequent approved revisions."

Owner/Developer Signature _____ Date _____

FIELD CHECK OF RECORD DRAWING BY MCDPS INSPECTOR: INITIALS: _____ DATE: _____

TECHNICAL REVIEW OF SEDIMENT CONTROL	ADMINISTRATIVE REVIEW	DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.
REVIEWED DATE	REVIEWED DATE	
TECHNICAL REVIEW OF STORMWATER MANAGEMENT	**SMALL LOT DRAINAGE APPROVAL**	SEDIMENT - 283296 **SEDIMENT CONTROL PERMIT NO.**
	N/A: ☐ OR	STORMWATER - 282967 **SM. FILE NO.** STORMWATER MANAGEMENT:
REVIEWED DATE	REVIEWED DATE	
MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.	NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED FOR A MCDPS ACCESS PERMIT.	

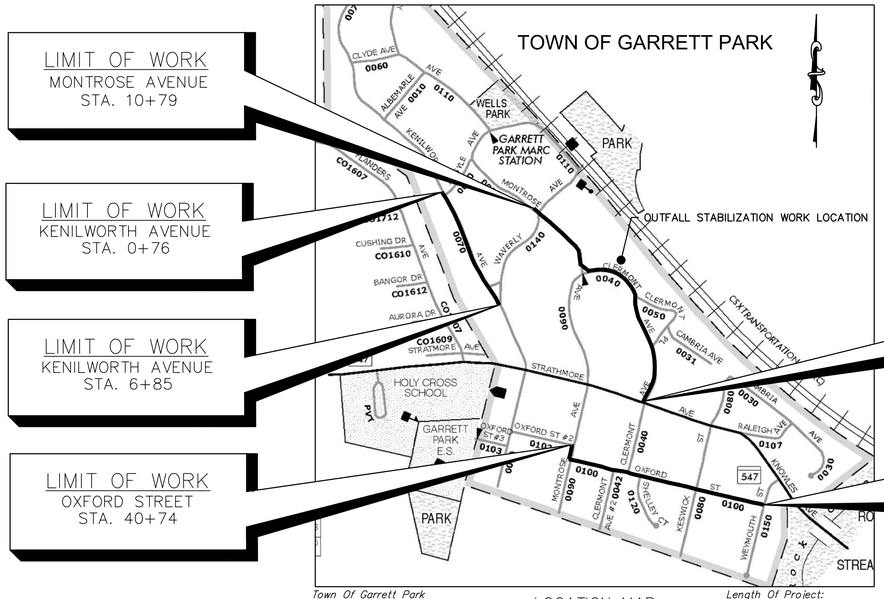
CLARK | AZAR & ASSOCIATES
20410 Century Blvd, Suite 230
Germantown, MD. 20874
T(301) 528-2010
www.clarkazar.com
A Woman Owned Small Business

PROFESSIONAL CERTIFICATION:
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 31168

EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND — JASON A. AZAR — No. 31168 — REGISTERED PROFESSIONAL ENGINEER — 7/20/17



Town Of Garrett Park

LOCATION MAP
SCALE: 1"=500'

Length Of Project:
Oxford Street = 0.28 MILES
Montrose/Clermont Avenue = 0.31 MILES
Kenilworth Avenue = 0.12 MILES

500' 0 500' 1000'

SCALE: 1"=500'

HORIZONTAL DATUM	NAD 83/91
VERTICAL DATUM	NAVD 88

INDEX OF SHEETS

AASHTO DESIGN CRITERIA

THIS PROJECT WAS DESIGNED IN ACCORDANCE WITH THE 2001 PUBLICATION OF AASHTO'S "A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS."

STANDARD SPECIFICATIONS BOOK, BOOK OF STANDARDS AND MUTCD

ALL WORK ON THIS PROJECT SHALL CONFORM TO: THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION'S SPECIFICATIONS ENTITLED STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED JUNE 2017 REVISIONS THEREOF OR ADDITIONS THERETO; THE SPECIAL PROVISIONS INCLUDED IN THE INVITATION FOR BIDS BOOK; THE ADMINISTRATIONS BOOK OF STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES AND THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

RIGHT-OF-WAY

RIGHT-OF-WAY AND EASEMENT LINES SHOWN ON THESE PLANS ARE FOR ASSISTANCE IN INTERPRETING THE PLANS. THEY ARE NOT OFFICIAL. FOR OFFICIAL FEE RIGHT-OF-WAY AND EASEMENT INFORMATION, SEE APPROPRIATE RIGHT-OF-WAY PLATS.

LIMITS OF DISTURBANCE

THE ENTIRE LIMITS OF DISTURBANCE IS WITHIN THE TOWN OF GARRETT PARK RIGHT-OF-WAY. NO OFFSITE GRADING WILL BE PERMITTED.

UTILITIES

THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE OF THE ACCURACY OF SAID LOCATIONS.

ENVIRONMENTAL INFORMATION

PRD # PENDING

COMPLETENESS OF DOCUMENTS

THE TOWN OF GARRETT PARK SHALL ONLY BE RESPONSIBLE FOR THE COMPLETENESS OF DOCUMENTS OBTAINED DIRECTLY FROM THE TOWN OF GARRETT PARK. FAILURE TO ATTACH ADDENDA MAY CAUSE THE BID TO BE IRREGULAR.

ADA COMPLIANCE

THE DESIGN OF THIS PROJECT HAS INCORPORATED FACILITIES FOR THE ELDERLY AND HANDICAPPED IN COMPLIANCE WITH THE STATE AND FEDERAL LEGISLATION.

EROSION AND SEDIMENT CONTROL

EROSION AND SEDIMENT CONTROL SHALL BE STRICTLY ENFORCED.

STANDARD STABILIZATION NOTE:

"FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN (7) CALENDER DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1), AND FOURTEEN DAYS (14) AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE."

STAGING AREA/STOCKPILE NOTE:

STAGING AND STORAGE OF ALL MATERIALS, EQUIPMENT, AND WASTE SHALL NOT BE ALLOWED OUTSIDE OF THE LIMITS OF DISTURBANCE AT ALL TIMES THROUGHOUT THE DURATION OF THE PROJECT.

ESC/SWM SHEET 1 OF 11

TREE CANOPY REQUIREMENTS TABLE

To be completed by the consultant and placed on the first sheet of the Sediment Control / Stormwater Management plan set for all projects.

Exempt: Yes ☐ No ☒ If exempt under Section 55-5 of the Code, please check the applicable exemption category below.

Total Property Area	Total Disturbed Area
50,227 square feet	50,227 square feet

Shade Trees Required	Shade Trees Proposed to be Planted
19	19

Fee in Lieu
(Trees Required – Trees Planted) x $250 = $ 0

Required Number of Shade Trees

Area (sq. ft.) of the Limits of Disturbance FROM	TO	Number of Shade Trees Required
1	6,000	3
6,001	8,000	6
8,001	12,000	9
12,001	14,000	12
14,001	40,000	15

If the square footage of the limits of disturbance is more than 40,000, then the number of shade trees required must be calculated using the following formula:

(Number of Square Feet in Limits of Disturbance ÷ 40,000) × 15

EXEMPTION CATEGORIES:

☐ 55-5(a) any activity that is subject to Article II of Chapter 22A;
☐ 55-5(b) any commercial logging or timber harvesting operation with an approved exemption from Article II of Chapter 22A;
☐ 55-5(c) any activity conducted by the County Parks Department;
☐ 55-5(g) routine or emergency maintenance of an existing stormwater management facility, including an existing access road, if the person performing the maintenance has obtained all required permits;
☐ 55-5(h) any stream restoration project if the person performing the work has obtained all necessary permits;
☐ 55-5(i) cutting or clearing any tree to comply with applicable provisions of any federal, state, or local law governing safety of dams;
☐ OTHER: Specify per Section 55-5 of the Code.

RELATED REQUIRED PERMITS

To be completed by the consultant and placed on the first sheet of the Sediment Control / Stormwater Management plan set for **all** projects.

IT IS THE RESPONSIBILITY OF PERMITTEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ISSUANCE OF THE APPROVED SEDIMENT CONTROL PERMIT

TYPE OF PERMIT	REQD	NOT REQD	PERMIT #	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS Floodplain District		X			
WATERWAYS/WETLAND(S):		X			
a. Corps of Engineers		X			
b. MDE		X			
c. MDE Water Quality Certification		X			
MDE Dam Safety		X			
* DPS Roadside Trees Protection Plan	X			Approval Date	
N.P.D.E.S. NOTICE OF INTENT	X				DATE FILED
FEMA LOMR (Required Post Construction)		X			
OTHERS (Please List):	X				
FOREST CONSERVATION EXEMPTION	X		42017136E 42017137E	Approval Date June 15, 2017	

* A copy of the approved Roadside Trees Protection Plan must be delivered to the sediment control inspector at the preconstruction meeting.

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\COVER SHEET.dwg

DRILL HOLES

DRILL HOLES

DRILL HOLES

GENERAL NOTES:

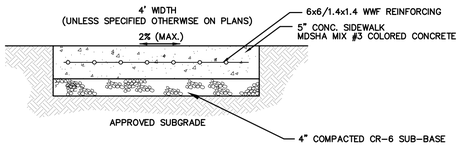
1. THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND ELEVATIONS PRIOR TO CONSTRUCTION. ANY CONFLICTS CONCERNING THE CONSTRUCTION AROUND EXISTING OBSTRUCTIONS PER THESE PLANS SHALL BE RESOLVED BETWEEN THE CONTRACTOR AND THE FIELD ENGINEER.
2. THE CONTRACTOR AND OTHERS SHALL PERFORM ALL WORK IN A MANNER THAT WILL ENSURE THE LEAST PRACTICAL OBSTRUCTION TO TRAFFIC, PEDESTRIANS, RESIDENTS, AND BE CONSISTENT WITH SAFETY.
3. BASELINE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. DIMENSIONS AND STATIONING ARE APPROXIMATE AND NOT A RESULT OF FIELD SURVEY.
4. THE CONTRACTOR WILL NOTIFY PROPERTY OWNERS 72 HOURS PRIOR TO RECONSTRUCTION OF DRIVEWAY ENTRANCES.
5. THE STATE HIGHWAY ADMINISTRATION OR THE TOWN OF GARRETT PARK DOES NOT WARRANT THE CORRECTNESS OF THE TOPOGRAPHIC OR UTILITY DATA PRESENTED HEREIN AND IS NOT RESPONSIBLE FOR ANY CONCLUSIONS DRAWN FROM THEM.
6. SIDEWALK RECONSTRUCTION LIMITS SHALL COINCIDE WITH CRACK CONTROL JOINTS (JOINTER GROOVES) OR EXPANSION JOINTS IN EXISTING SIDEWALK. NEW EXPANSION JOINTS SHALL BE PROVIDED AT THE INTERFACE OF EXISTING AND PROPOSED SIDEWALK. SEE STANDARD MD. NO. 655.01.
7. CONTRACTOR TO INSTALL DETECTABLE WARNING SURFACE ON ALL ADA CROSSWALK RAMPS AS PER STANDARD MD. NO. 655.40.
8. FORM NEW SIDEWALK AND EXPANSION JOINT MATERIAL AROUND EX. UTILITY POLES, MANHOLE COVERS, VALVE COVERS, AND FIRE HYDRANTS AS NECESSARY.
9. EXISTING INLETS SHALL NOT BE DAMAGED DURING CONSTRUCTION. DAMAGE TO THE INLETS WILL REQUIRE THE INLET TO BE REPLACED AT NO ADDITIONAL COST TO THE ADMINISTRATION.
10. RECONSTRUCT PROPERTY WALKWAYS TO TIE INTO PROPOSED SIDEWALK GRADES AS DIRECTED BY THE ENGINEER.
11. EXISTING CURB HEIGHTS PROVIDED ON PLAN SHALL BE VERIFIED BY THE CONTRACTOR. RAMP AND DRIVEWAY TRANSITION LENGTHS SHALL BE VERIFIED IN THE FIELD ACCORDING TO SHA STANDARD MD. NO. 630.01, MD. NO. 630.02, MD. NO. 655.11, MD. NO. 655.12, AND MD. NO. 655.13.
12. STABILIZE ALL DISTURBED AREAS NOT DRAINING TO A SEDIMENT CONTROL DEVICE AT THE END OF EACH DAY. THE CONTRACTOR SHALL LIMIT WORK ACTIVITIES SUCH THAT ALL DISTURBED AREAS CAN BE STABILIZED TO FINAL GRADE AND PLACEMENT OF THE TOP SOIL, SEED AND MULCH, SOD OR OTHER STABILIZATION METHODS CAN BE PERFORMED AT THE END OF EACH WORK DAY.
13. MAINTAIN ALL VEHICLE ACCESS POINTS AT RESIDENTIAL DRIVEWAYS AND UNSIGNALIZED INTERSECTIONS.
14. MAINTAIN IN GOOD CONDITION ALL EXISTING TRAFFIC SIGNS. IF, IN THE OPINION OF THE ENGINEER, ANY SIGNS ARE DAMAGED BY THE CONTRACTOR'S OPERATION, THEY ARE TO BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
15. THE CONTRACTOR SHALL ADJUST ALL EXISTING VISIBLE MANHOLES, VALVE BOXES, INLETS AND OTHER STRUCTURES, AS PER SPECIFICATION SECTION 504 AND 875.
16. DO NOT LEAVE A PAVEMENT DROP-OFF AT ANYTIME AFTER A WORK DAY IS COMPLETE.
17. MAINTAIN THE LIMITS OF WORK WITHIN THE PROJECT IN A SAFE AND NEAT MANNER THROUGHOUT THE DURATION OF THE CONTRACT. PILES OF DEBRIS SUCH AS EXCAVATED SOIL AND HMA ARE EXPECTED TO BE REMOVED OR STABILIZED WITHIN THE SAME WORKING DAY. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY RESULT IN ADMINISTRATIVE ACTION AS OUTLINED UNDER FAILURE TO MAINTAIN PROJECT OF THE SPECIFICATIONS.
18. ALL WORK WILL BE CONDUCTED IN TOWN OF GARRETT PARK RIGHT-OF-WAY AND THE CONTRACTOR MUST OBTAIN A RIGHT-OF-ENTRY AGREEMENT FROM THE TOWN OF GARRETT PARK PRIOR TO THE COMMENCEMENT OF ANY STAGING ACTIVITIES SUCH AS THE ESTABLISHMENT OF A FIELD OFFICE OR FOR THE STORAGE OF EQUIPMENT AND MATERIAL WITHIN SAID RIGHT-OF-WAY. APPROVAL WILL REQUIRE THE EXECUTION OF THE AGREEMENT AND A RETAINAGE TO BE WITHHELD FROM PROGRESS PAYMENTS UNTIL SUCH TIME THE AFFECTED AREA(S) HAVE BEEN RESTORED TO PRE-USE CONDITION. IF ADDITIONAL DISTURBANCE IS NECESSARY, THE CONTRACTOR MAY BE REQUIRED TO AMEND ANY APPLICABLE PERMITS THAT MAY BE AFFECTED AND WILL BE SUBJECTED TO ANY AND ALL PERMIT CONDITIONS.
19. REFER TO SHEETS SC-01 – SC-07 FOR EROSION AND SEDIMENT CONTROL REQUIREMENTS.
20. SEDIMENT AND EROSION CONTROL REGULATIONS WILL BE STRICTLY ENFORCED DURING CONSTRUCTION.
21. SIDEWALK RAMP CONSTRUCTION WILL BE PAID AS 5 INCH CONCRETE SIDEWALK.
22. WHERE CURB, CURB AND GUTTER, OR DEPRESSED CURB IS PROPOSED, THE CONTRACTOR SHALL REPLACE THE ADJACENT CURB OR CURB AND GUTTER TO THE EXISTING CURB JOINT.
23. CONTRACTOR SHALL PROVIDE ENTRANCE TIE-IN AS NECESSARY TO PROVIDE ADEQUATE TRANSITION FROM RECONSTRUCTED ENTRANCE TO EXISTING PAVEMENT (SEE MD 630.01 AND MD 630.02); PAVEMENT MATERIAL SHALL MATCH EXISTING.
24. HMA FOR DRIVEWAYS WILL BE SUPERPAVE ASPHALT MIX 9.5MM FOR SURFACE, PG 64S-22, LEVEL 4 (2 INCH DEPTH).
25. ADJUST EXISTING UTILITIES IMPACTED BY THE SIDEWALK & SIDEWALK RAMP CONSTRUCTION. THE COST IS INCIDENTAL TO SIDEWALK AND SIDEWALK RAMP CONSTRUCTION.
26. THE CONTRACTOR SHALL RESET ANY SIGNS DISTURBED BY THE CONSTRUCTION AS DIRECTED BY THE ENGINEER.
27. ALL CONCRETE FOR CURBS, SIDEWALKS, DRIVEWAY APRONS, ETC. SHALL BE COLORED CONCRETE. COLOR SHALL BE INTEGRAL TO THE CONCRETE. THE TOWN SHALL SELECT A COLOR FROM A CHART OF STANDARD COLORS. CONTRACTOR SHALL PROVIDE COLOR SAMPLES TO TOWN. A 5' X 5' TEST PANEL SHALL BE PREPARED TO SHOW CONCRETE COLOR AND BE ACCEPTED BY THE TOWN PRIOR TO FINALIZING COLOR FOR THE ENTIRE PROJECT. THE CONTRACTOR SHALL NOT CHANGE COLOR OR PIGMENT MANUFACTURER DURING CONSTRUCTION. IT IS THE INTENTION OF THE TOWN FOR THE CONCRETE TO BE TAUPE IN COLOR.

MAINTENENCE OF TRAFFIC NOTES:

1. MD SHA STANDARD PLATES ARE TO BE USED FOR MAINTENENCE OF TRAFFIC.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MOT STANDARDS MD 104.00-01 THRU 104.06-25.
3. NO WORK IS TO BEGIN UNTIL ALL ADVANCE WARNING SIGNS, DRUMS AND ARROW PANELS ARE IN PLACE AND OPERATIONAL.
4. ADVANCED NOTIFICATION OF SIDEWALK CLOSURES SHALL BE PROVIDED. A BARRIER THAT IS DECTECTABLE BY A PERSON WITH A VISUAL DISABILITY SHALL BE PLACED ACROSS THE FULL WIDTH OF THE CLOSED SIDEWALK.
5. WHERE PEDESTRIANS ARE DIRECTED TO CROSS TO THE OPPOSIDE SIDE OF THE ROADWAY, APPROPRIATE ADVANCED WARNING SIGNS SHOULD BE PLACED AT THE INTERSECTIONS RATHER THAN MID-BLOCK CROSSINGS.
6. TRAFFIC CONTROL DEVICES AND OTHER CONSTRUCTION MATERIALS AND FEATURES SHALL NOT INTRUDE INTO THE USABLE WIDTH OF THE SIDEWALK, TEMPORARY OR OTHER PEDESTRIAN FACILITY.

LEGEND

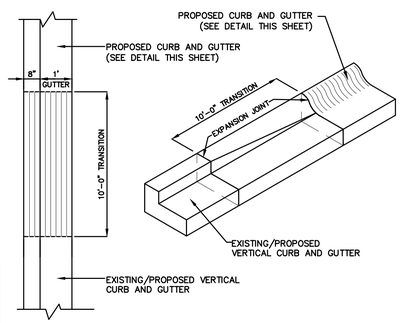
- EXISTING TREE
- EXISTING PINE TREE
- EXISTING SIGN
- EXISTING LIGHT
- EXISTING CURB INLET
- EXISTING SEWER MANHOLE
- EXISTING TRANSFORMER
- EXISTING UTILITY POLE W/ GUY WIRE
- EXISTING FOREST TREELINE
- EXISTING PROPERTY BOUNDARY
- EXISTING BUILDING
- UGE — EXISTING UNDERGROUND ELECTRIC
- G — EXISTING GAS LINE
- SS — EXISTING SANITARY SEWER
- SD — EXISTING STORM SEWER
- 388 — EXISTING CONTOUR
- x x x — EXISTING FENCE
- EXISTING CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING SIDEWALK
- 325.7 — EXISTING SPOT ELEVATION
- 388 — PROPOSED CONTOUR
- PROPOSED COMBINATION CURB AND GUTTER
- PROPOSED SIDEWALK
- PROPOSED EASEMENT LINE
- PROPOSED CONCRETE
- PROPOSED ASPHALT



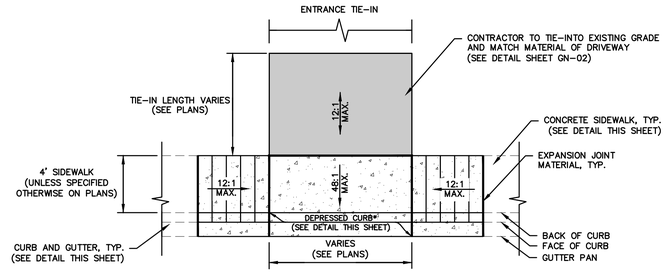
NOTES:

1. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION SPECIFICATIONS FOR MATERIALS AND METHODS.
2. EXPANSION JOINT MATERIAL SHALL BE PLACED AROUND POLES, AND HYDRANTS, ETC. WHEN THE SIDEWALK ABUTS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE.
3. EXPANSION JOINT MATERIAL SHALL HAVE A MAXIMUM LONGITUDINAL SPACING OF 100 FEET. THE MATERIAL SHALL BE 1/2-INCH PREFORMED CORK, TRIMMED AND SEALED WITH NON-STAINING, TWO-COMPONENT POLYSULFIDE OR POLYURETHANE ELASTOMERIC TYPE SEALANT COMPLYING WITH FS TT-S-00227.
4. SCORE THE CONCRETE TO A DEPTH OF 1/3 THE SLAB THICKNESS TO PROVIDE WEAKENED PLANE TRAVERSE JOINTS AT 5'-0" INTERVALS, PARALLEL WITH AND PERPENDICULAR TO THE CURBING OR AS INDICATED ON THE SCORING PLAN.

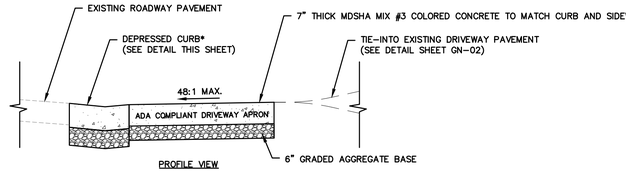
3 TYPICAL CONCRETE SIDEWALK DETAIL
NOT TO SCALE



7 TYPICAL TRANSITION CURB DETAIL
NOT TO SCALE



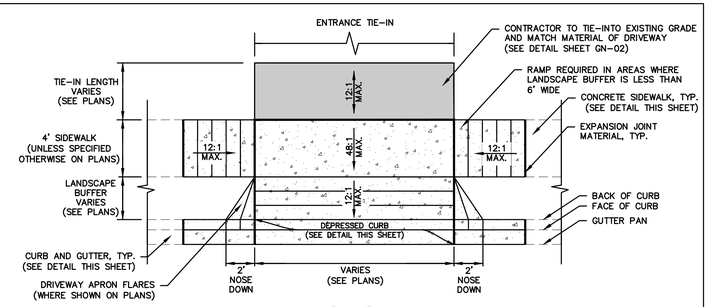
PLAN VIEW



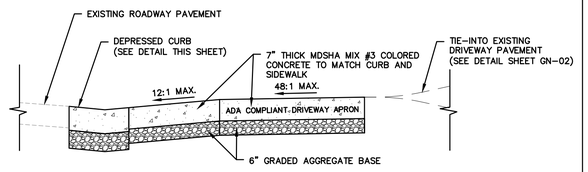
PROFILE VIEW

*NOTE: MOUNTABLE CURB TO BE USED AT DRIVEWAY ENTRANCES LOCATED AT 4402 & 4406 OXFORD STREET.

1 TYPICAL DRIVEWAY APRON WITHOUT BUFFER
NOT TO SCALE

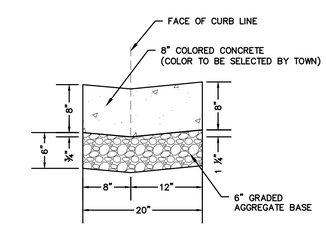


PLAN VIEW

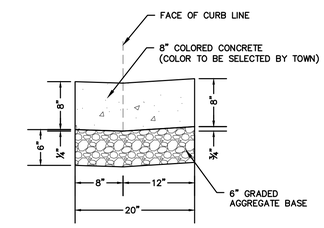


PROFILE VIEW

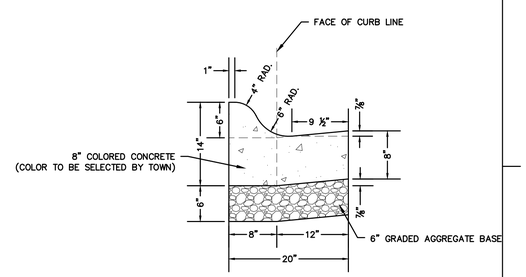
2 TYPICAL DRIVEWAY APRON WITH BUFFER
NOT TO SCALE



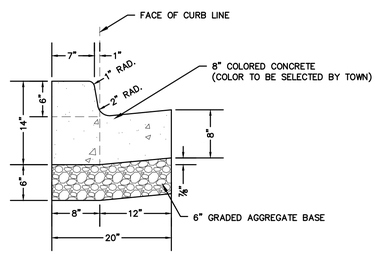
4 TYPICAL DEPRESSED CURB DETAIL
NOT TO SCALE



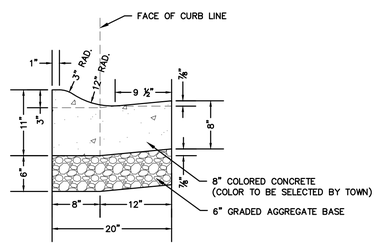
5 TYPICAL DEPRESSED CURB DETAIL
(FOR USE AT ADA RAMPS)
NOT TO SCALE



6 TYPICAL COMBINATION ROLLED
CURB AND GUTTER DETAIL
NOT TO SCALE



8 TYPICAL COMBINATION VERTICAL
CURB AND GUTTER DETAIL
NOT TO SCALE



9 TYPICAL MOUNTABLE CURB DETAIL
NOT TO SCALE

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T(301) 528-2010
www.clarkazar.com
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PROFESSIONAL CERTIFICATION:
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 31168
EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND · JASON A. AZAR · No. 31168 · REGISTERED PROFESSIONAL ENGINEER
7/20/17

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

TOWN OF GARRETT PARK

PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

CROSS REFERENCE

REVISIONS

GENERAL NOTES AND TYPICAL DETAILS

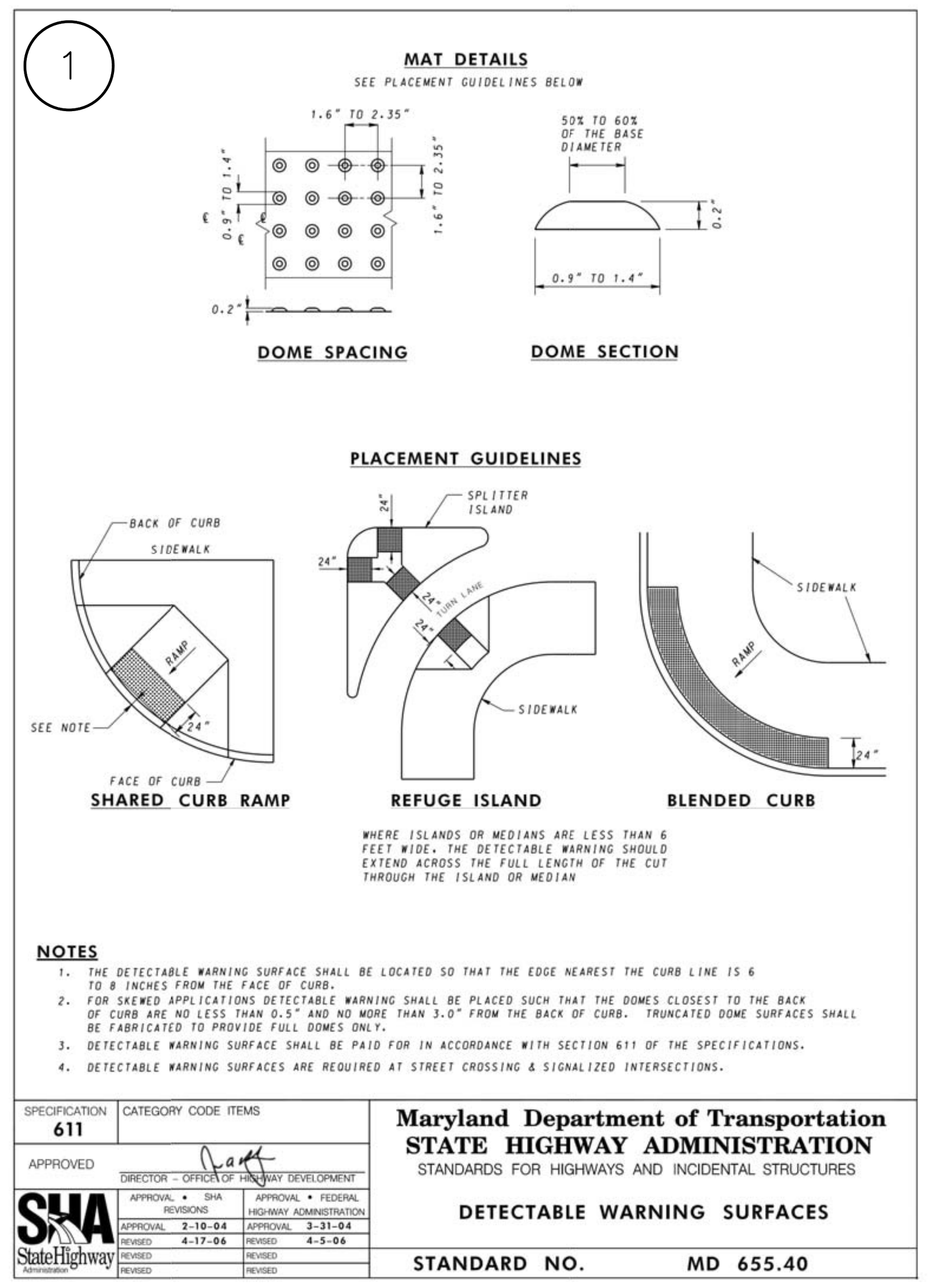
SCALE N.T.S. ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME
DRAWN BY ME
CHECKED BY JA
F.A.P. NO. TBD

COUNTY MONTGOMERY
LOGMILE
HORIZONTAL SCALE
VERTICAL SCALE

DRAWING NO. GN-01 OF 2
SHEET NO. 2 OF 29

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\GN01-02 GENERAL NOTES AND DETAILS.dwg

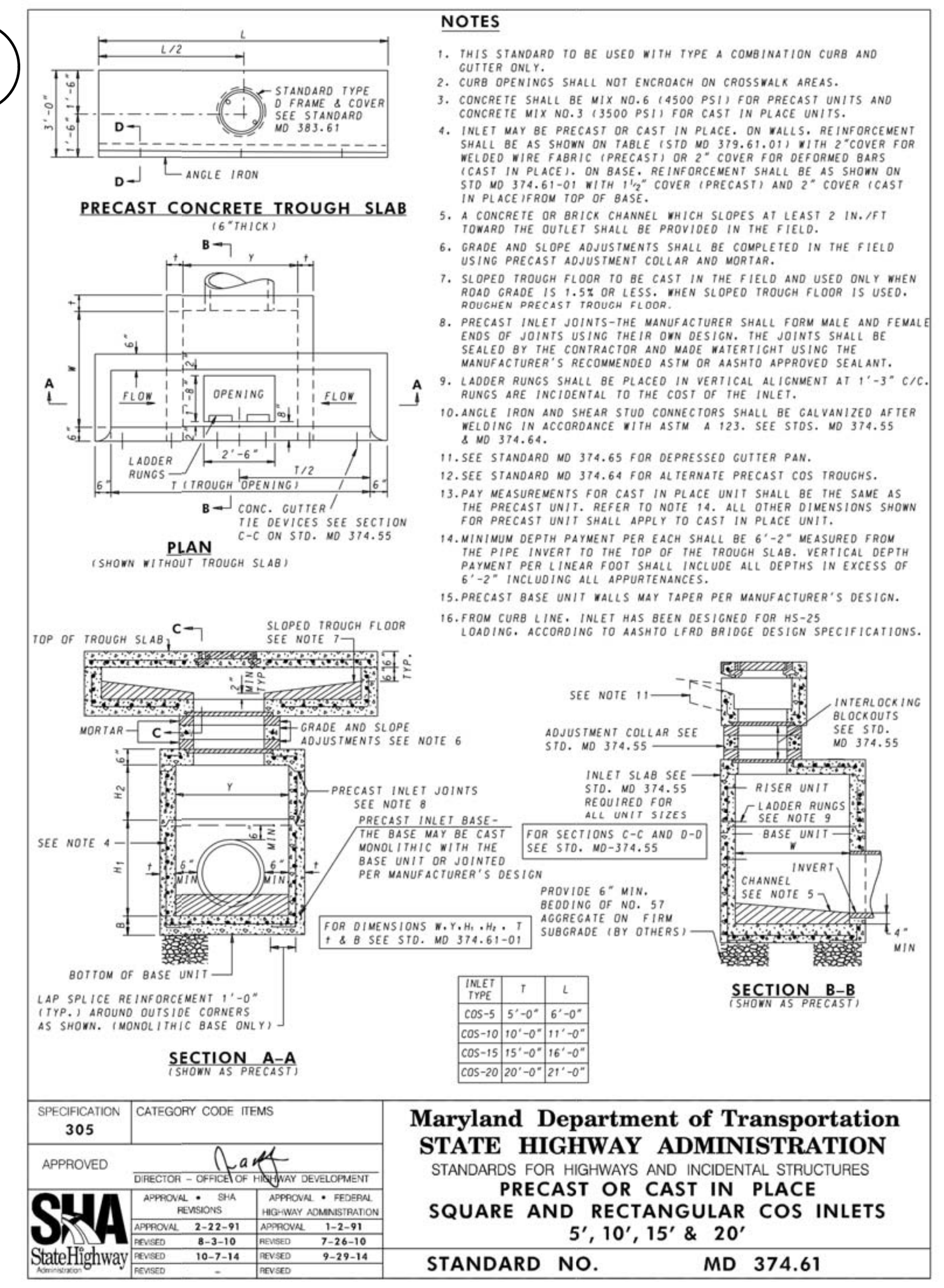


NOTES

1. THE DETECTABLE WARNING SURFACE SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6 TO 8 INCHES FROM THE FACE OF CURB.
2. FOR SKEWED APPLICATIONS DETECTABLE WARNING SHALL BE PLACED SUCH THAT THE DOMES CLOSEST TO THE BACK OF CURB ARE NO LESS THAN 0.5" AND NO MORE THAN 3.0" FROM THE BACK OF CURB. TRUNCATED DOME SURFACES SHALL BE FABRICATED TO PROVIDE FULL DOMES ONLY.
3. DETECTABLE WARNING SURFACE SHALL BE PAID FOR IN ACCORDANCE WITH SECTION 611 OF THE SPECIFICATIONS.
4. DETECTABLE WARNING SURFACES ARE REQUIRED AT STREET CROSSING & SIGNALIZED INTERSECTIONS.

SPECIFICATION 611 | CATEGORY CODE ITEMS | APPROVED | DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT | APPROVAL • SHA REVISIONS: APPROVAL 2-10-04, REVISED 4-17-06 | APPROVAL • FEDERAL HIGHWAY ADMINISTRATION: APPROVAL 3-31-04, REVISED 4-5-06

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
DETECTABLE WARNING SURFACES
STANDARD NO. MD 655.40



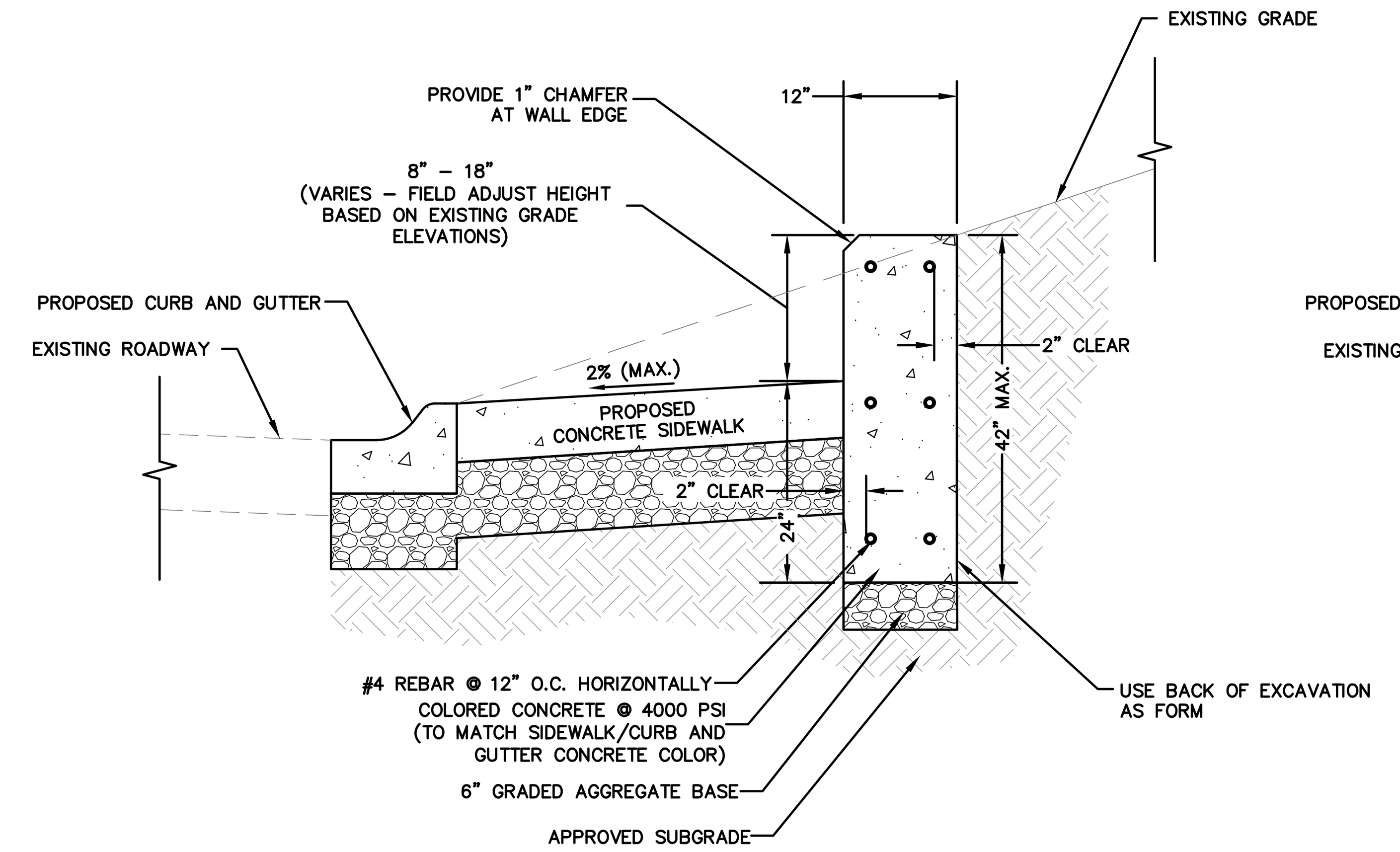
INLET TYPE	T	L
COS-5	5'-0"	6'-0"
COS-10	10'-0"	11'-0"
COS-15	15'-0"	16'-0"
COS-20	20'-0"	21'-0"

NOTES

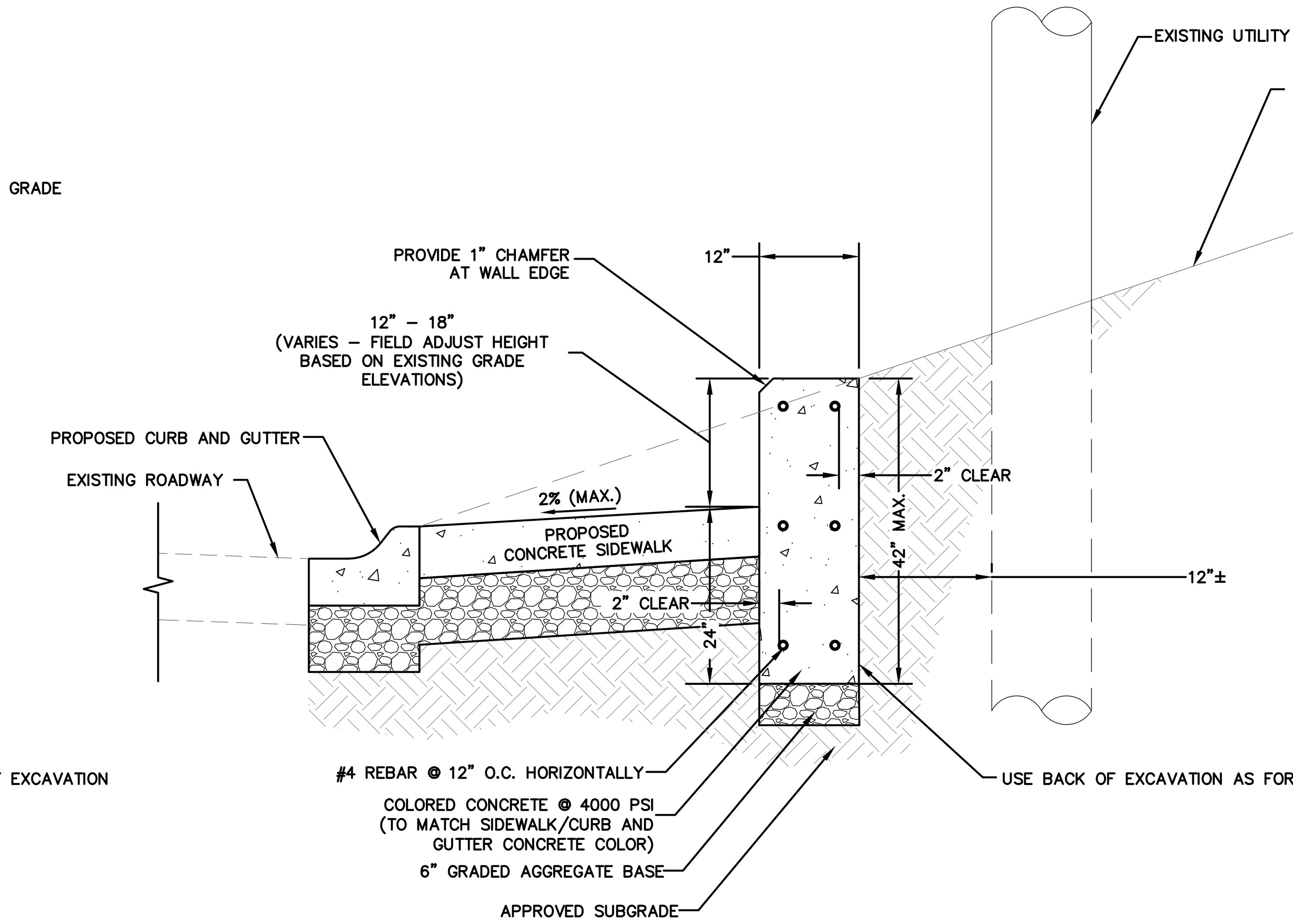
1. THIS STANDARD TO BE USED WITH TYPE A COMBINATION CURB AND GUTTER ONLY.
2. CURB OPENINGS SHALL NOT ENCROACH ON CROSSWALK AREAS.
3. CONCRETE SHALL BE MIX NO.6 (4500 PSI) FOR PRECAST UNITS AND CONCRETE MIX NO.3 (3500 PSI) FOR CAST IN PLACE UNITS.
4. INLET MAY BE PRECAST OR CAST IN PLACE. ON WALLS, REINFORCEMENT SHALL BE AS SHOWN ON TABLE (STD MD 379.61.01) WITH 2"COVER FOR WELDED WIRE FABRIC (PRECAST) OR 2" COVER FOR DEFORMED BARS (CAST IN PLACE). ON BASE, REINFORCEMENT SHALL BE AS SHOWN ON STD MD 374.61-01 WITH 1½" COVER (PRECAST) AND 2" COVER (CAST IN PLACE)FROM TOP OF BASE.
5. A CONCRETE OR BRICK CHANNEL WHICH SLOPES AT LEAST 2 IN./FT TOWARD THE OUTLET SHALL BE PROVIDED IN THE FIELD.
6. GRADE AND SLOPE ADJUSTMENTS SHALL BE COMPLETED IN THE FIELD USING PRECAST ADJUSTMENT COLLAR AND MORTAR.
7. SLOPED TROUGH FLOOR TO BE CAST IN THE FIELD AND USED ONLY WHEN ROAD GRADE IS 1.5% OR LESS. WHEN SLOPED TROUGH FLOOR IS USED, ROUGHEN PRECAST TROUGH FLOOR.
8. PRECAST INLET JOINTS-THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING THE MANUFACTURER'S RECOMMENDED ASTM OR AASHTO APPROVED SEALANT.
9. LADDER RUNGS SHALL BE PLACED IN VERTICAL ALIGNMENT AT 1'-3" C/C. RUNGS ARE INCIDENTAL TO THE COST OF THE INLET.
10. ANGLE IRON AND SHEAR STUD CONNECTORS SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH ASTM A 123. SEE STDS. MD 374.55 & MD 374.64.
11. SEE STANDARD MD 374.65 FOR DEPRESSED GUTTER PAN.
12. SEE STANDARD MD 374.64 FOR ALTERNATE PRECAST COS TROUGHS.
13. PAY MEASUREMENTS FOR CAST IN PLACE UNIT SHALL BE THE SAME AS THE PRECAST UNIT. REFER TO NOTE 14. ALL OTHER DIMENSIONS SHOWN FOR PRECAST UNIT SHALL APPLY TO CAST IN PLACE UNIT.
14. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 6'-2" MEASURED FROM THE PIPE INVERT TO THE TOP OF THE TROUGH SLAB. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 6'-2" INCLUDING ALL APPURTENANCES.
15. PRECAST BASE UNIT WALLS MAY TAPER PER MANUFACTURER'S DESIGN.
16. FROM CURB LINE, INLET HAS BEEN DESIGNED FOR HS-25 LOADING, ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

SPECIFICATION 305 | CATEGORY CODE ITEMS | APPROVED | DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT | APPROVAL • SHA REVISIONS: APPROVAL 2-22-91, REVISED 8-3-10, REVISED 10-7-14 | APPROVAL • FEDERAL HIGHWAY ADMINISTRATION: APPROVAL 1-2-91, REVISED 7-26-10, REVISED 9-29-14

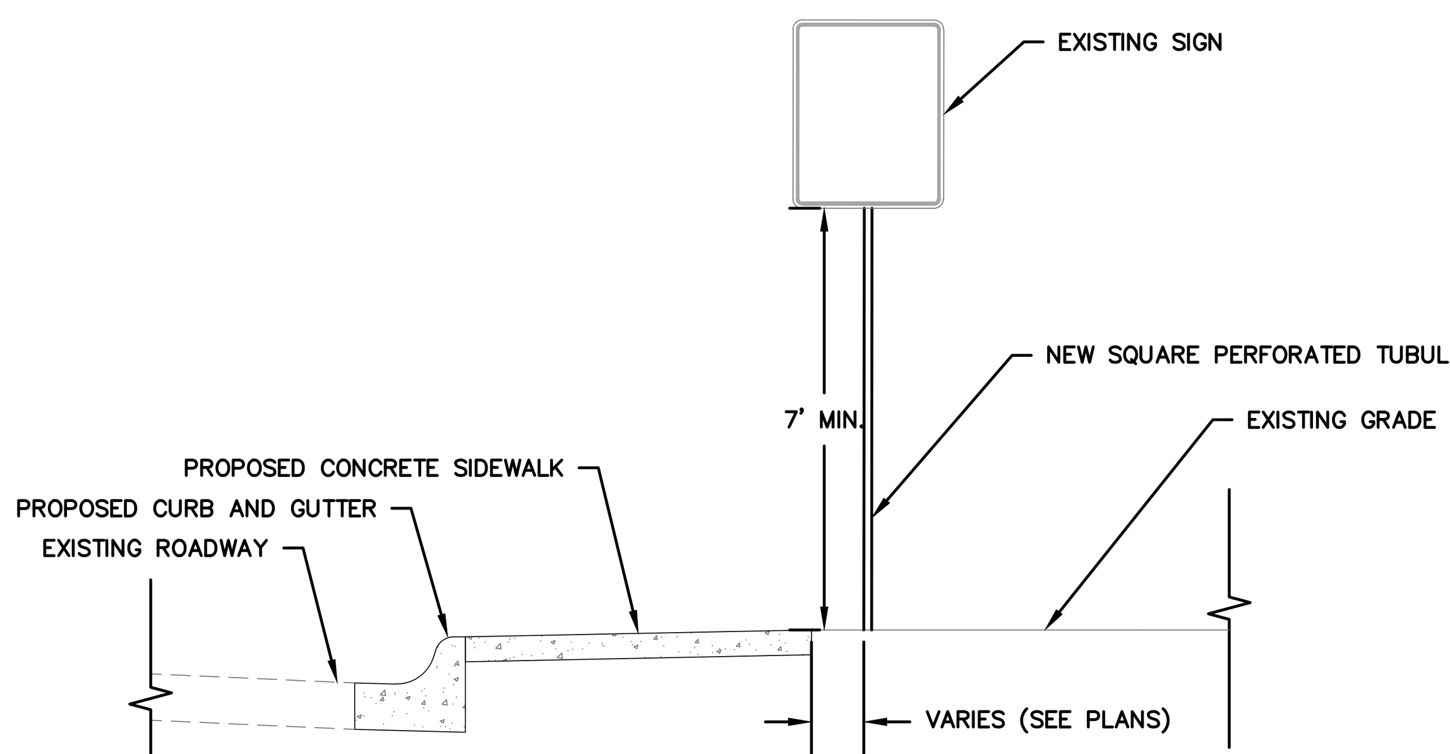
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST OR CAST IN PLACE SQUARE AND RECTANGULAR COS INLETS 5', 10', 15' & 20'
STANDARD NO. MD 374.61



3 TYPICAL CONCRETE KNEE–WALL DETAIL
NOT TO SCALE



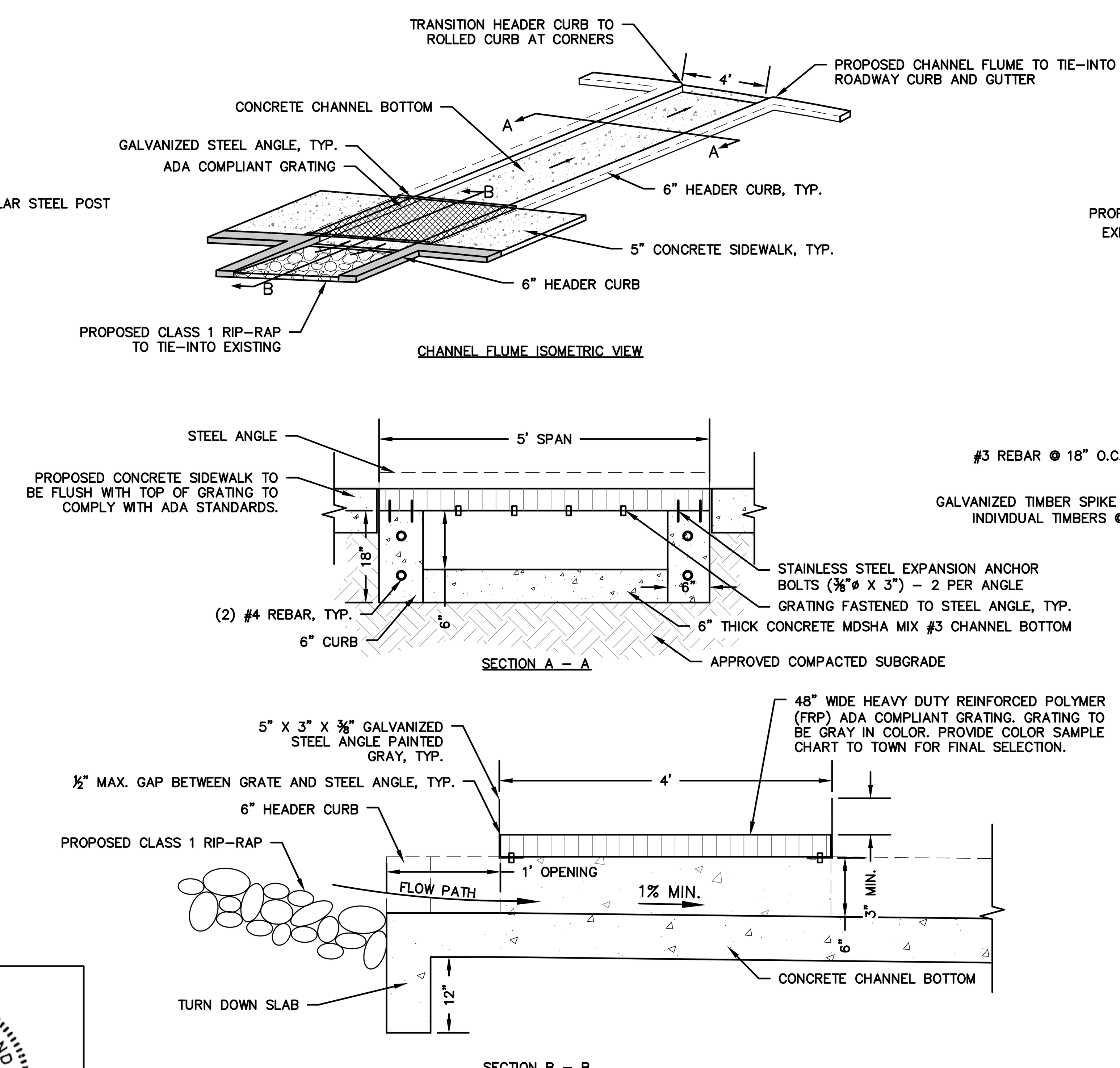
4 CONCRETE KNEE–WALL DETAIL (AT UTILITY POLE LOCATION)
NOT TO SCALE



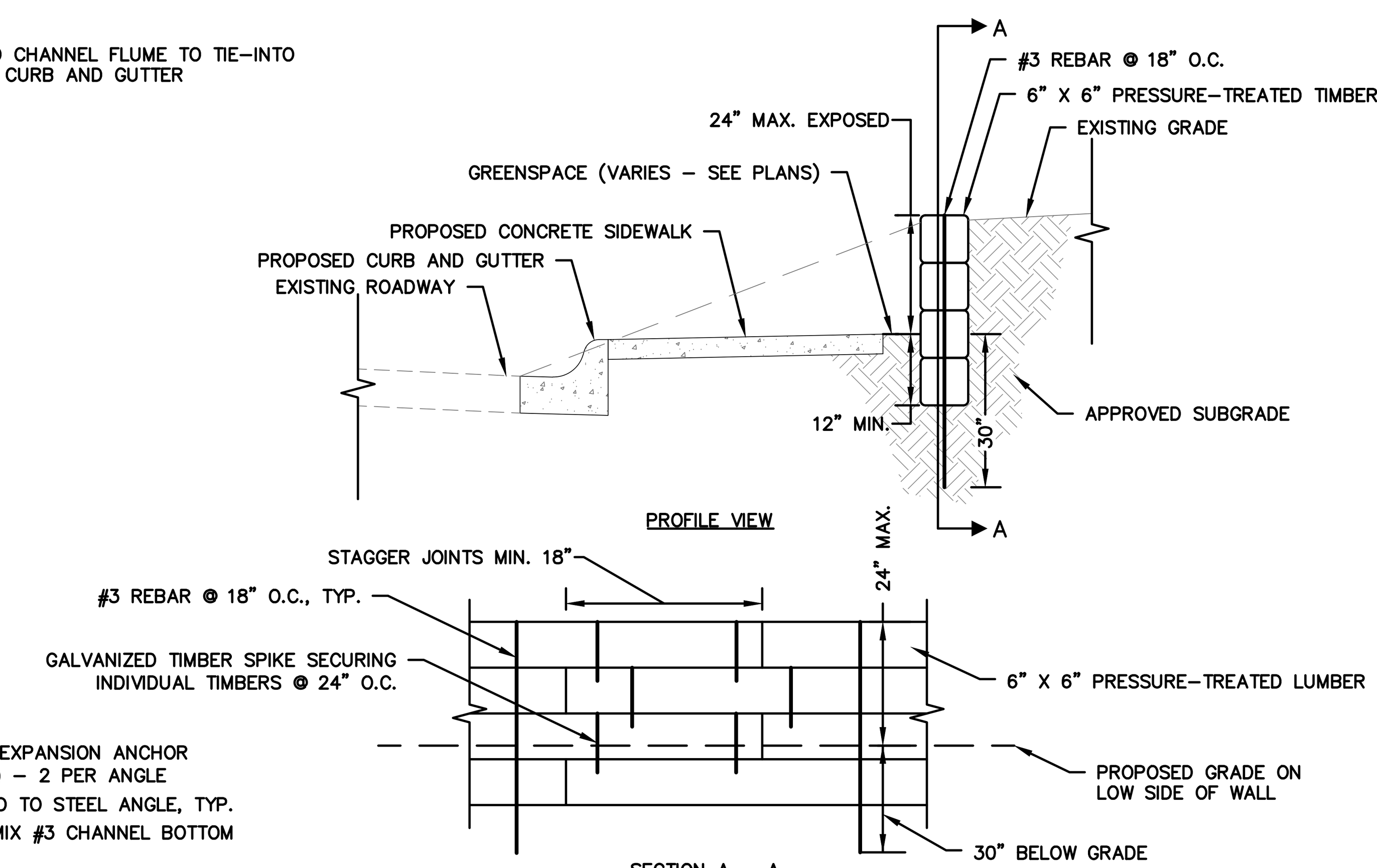
NOTES:

1. CONTRACTOR SHALL REFER TO SHA STD. NO'S MD 812.01, 812.04, AND 813.02 FOR ALL SIGN RELOCATIONS.
2. CONTRACTOR SHALL FURNISH AND INSTALL THE NECESSARY ATTACHMENT HARDWARE TO ATTACH SIGNS TO THE PROPOSED SQUARE TUBULAR STEEL SIGN POST. THIS HARDWARE SHALL BE INCIDENTAL TO THE SQUARE PERFORATED TUBULAR STEEL SIGN POST ITEM.

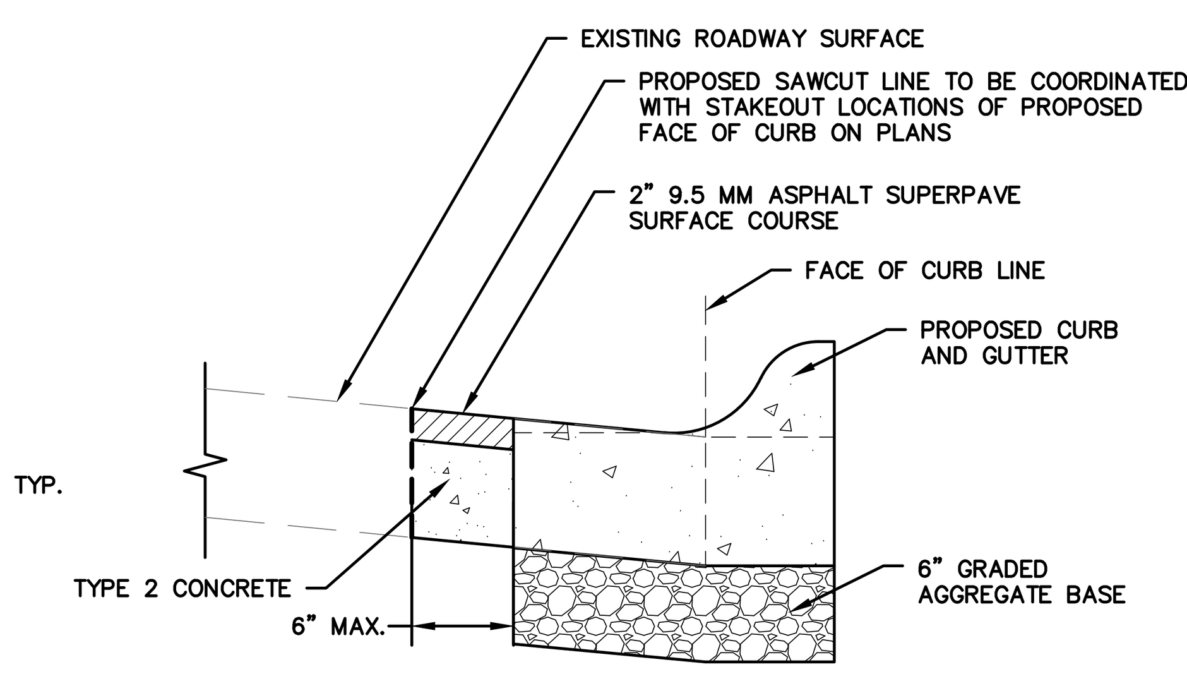
5 TYPICAL SIGN RELOCATION DETAIL
NOT TO SCALE



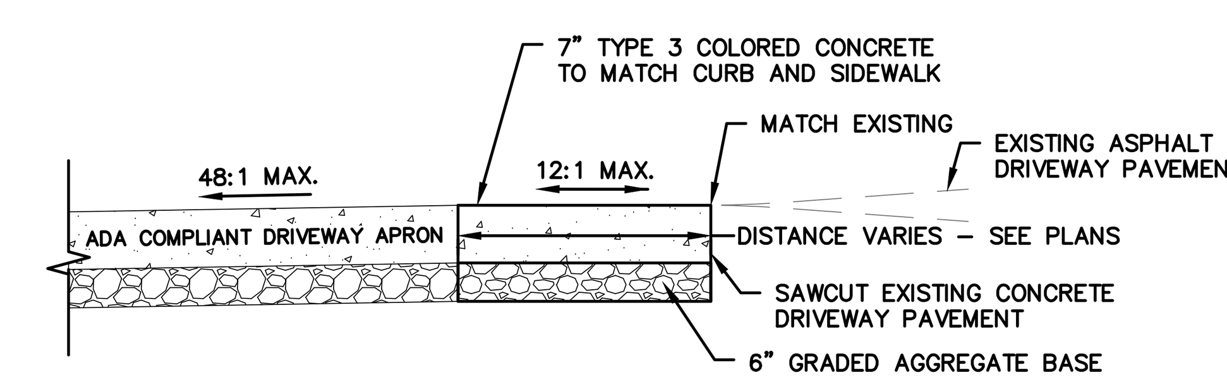
6 CHANNEL FLUME DETAIL
NOT TO SCALE



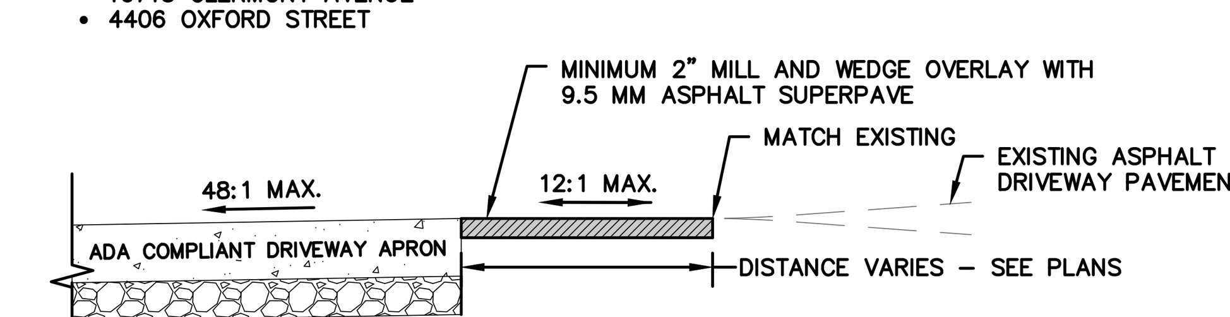
7 TYPICAL TIMBER WALL DETAIL
NOT TO SCALE



8 TYPICAL SAWCUT AND PAVEMENT PATCH DETAIL
NOT TO SCALE



NOTE: DRIVEWAY TIE-INS TO BE CONSTRUCTED USING CONCRETE AT THE FOLLOWING LOCATIONS:
- 10920 CLERMONT AVENUE
- 10918 CLERMONT AVENUE
- 10916 CLERMONT AVENUE
- 10715 CLERMONT AVENUE
- 4406 OXFORD STREET



9 TYPICAL DRIVEWAY TIE-IN DETAILS
NOT TO SCALE

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

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I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 31168
EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND – JASON AZAR – No. 31168 – REGISTERED – PROFESSIONAL ENGINEER
9-20-17

CROSS REFERENCE

ITEM	SHEET NOs.
COVER	1
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REVISIONS

TOWN OF GARRETT PARK

PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

GENERAL NOTES AND TYPICAL DETAILS

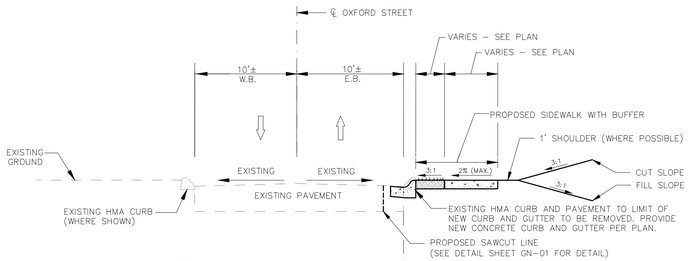
SCALE N.T.S. ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY	ME	COUNTY	MONTGOMERY
DRAWN BY	ME	LOGMILE	
CHECKED BY	JA	HORIZONTAL SCALE	
F.A.P. NO.	TBD	VERTICAL SCALE	

DRAWING NO. GN–02 OF 2 | SHEET NO. 3 OF 29

PLOTTED: 3/6/2017 11:39 AM
FILE: J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\GN01–02 GENERAL NOTES AND DETAILS.dwg

DRILL HOLES



1 OXFORD STREET – TYPICAL SECTION
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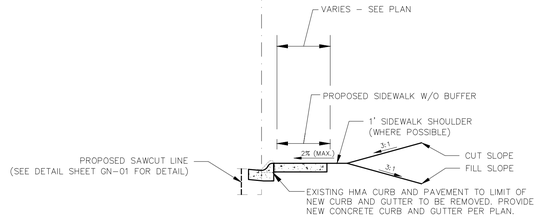

2 OXFORD STREET – TYPICAL SECTION
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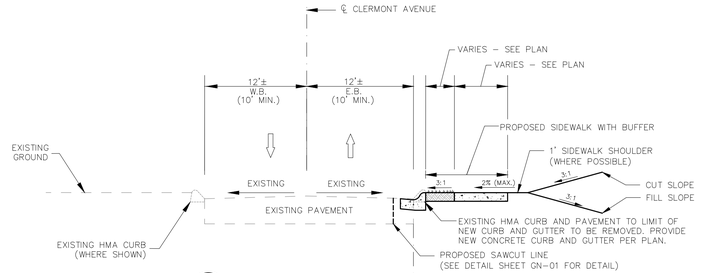
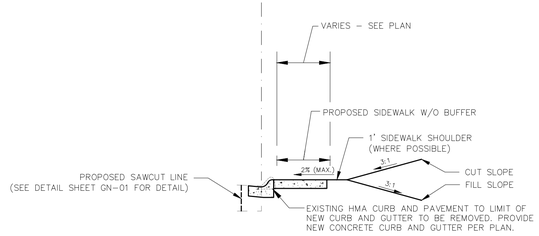


3 CLERMONT AVENUE – TYPICAL SECTION
NOT TO SCALE



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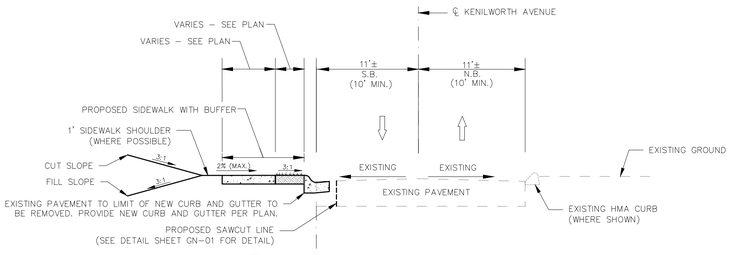

5 KENILWORTH AVENUE – TYPICAL SECTION
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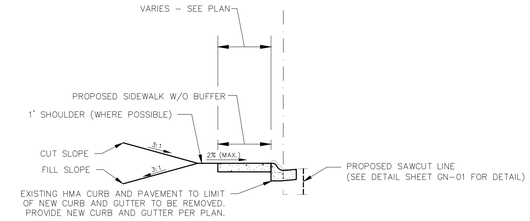
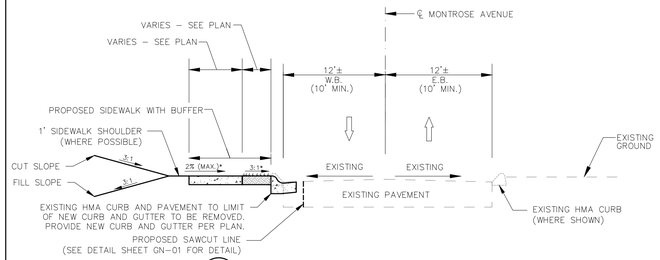


6 KENILWORTH AVENUE – TYPICAL SECTION
NOT TO SCALE



7 MONTROSE AVENUE – TYPICAL SECTION
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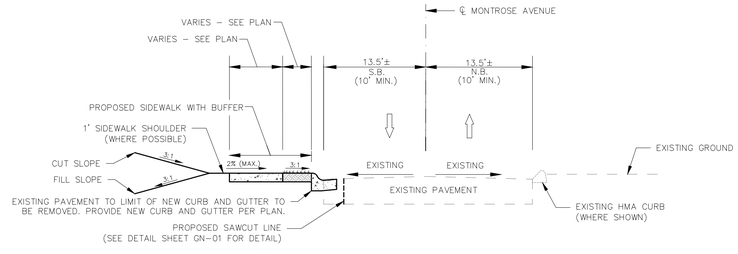

8 MONTROSE AVENUE – TYPICAL SECTION
NOT TO SCALE

***NOTE: PROPOSED GREENSPACE AND SIDEWALK TO BE PITCHED AWAY FROM ROADWAY IN SPECIFIED AREA ALONG MONTROSE AVENUE – SEE PLANS FOR LOCATION. (STA. 15+00 TO STA. 15+97)**

GENERAL NOTE:

LOCATION OF PROPOSED CURB AND GUTTER AND SAWCUT LINE ARE FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO SAWCUT/PAVEMENT REMOVAL DETAIL ON SHEET GN-02 FOR FURTHER INFORMATION.

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

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LICENSE NO. 31168
EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND · JASON A. AZAR · No. 31168 · PROFESSIONAL ENGINEER
9/20/17

CROSS REFERENCE

REVISIONS

TOWN OF GARRETT PARK

PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

TYPICAL SECTIONS

SCALE N.T.S. ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME
DRAWN BY ME
CHECKED BY JA
F.A.P. NO. TBD
COUNTY MONTGOMERY
LOGMILE
HORIZONTAL SCALE
VERTICAL SCALE

DRAWING NO. TS-01 OF 1
SHEET NO. 4 OF 29

PLOTTED: 3/6/2017 11:39 AM
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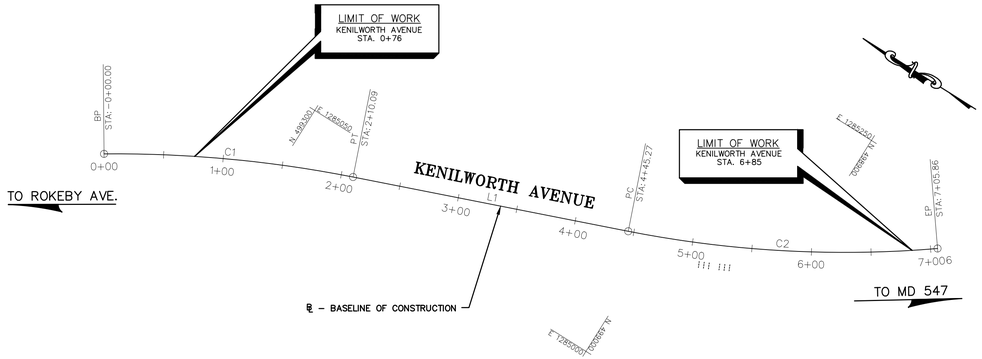


GEOMETRIC LAYOUT
STA. 0+00 – STA. 7+06

KENILWORTH BASELINE CONSTRUCTION CURVE DATA						
CURVE	DELTA	Dc	RADIUS	LENGTH	CHORD	EXTERNAL
C1	11°40'35"	5°33'36"	1030.90'	210.09'	209.73'	5.38'
C2	15°54'33"	6°06'29"	938.48'	260.59'	259.75'	9.12'

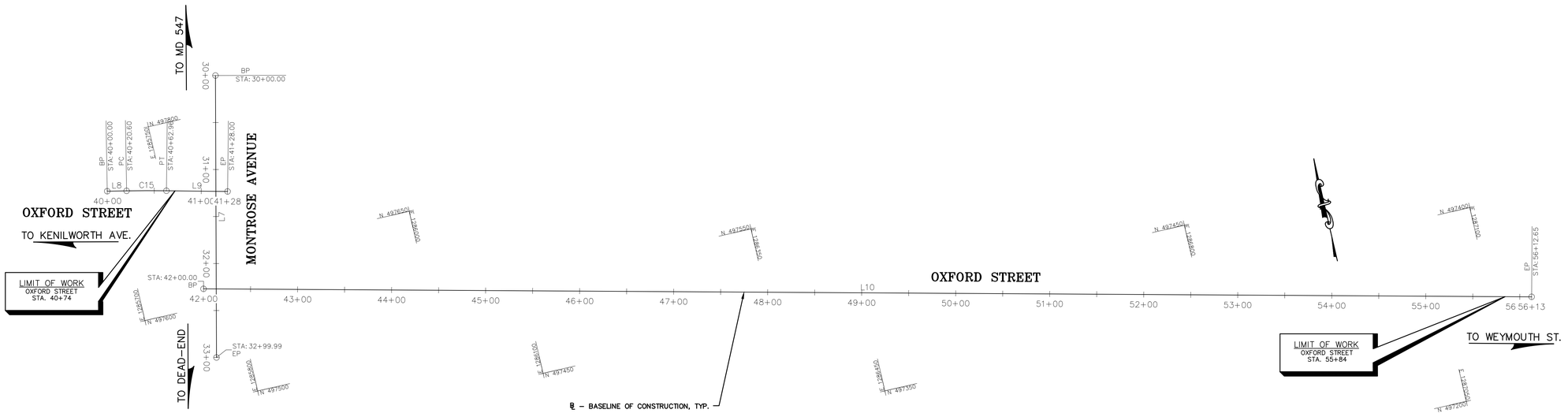
KENILWORTH BASELINE CONSTRUCTION LINE DATA				
LINE	LENGTH	BEARING	START POINT (NORTHING, EASTING)	END POINT (NORTHING, EASTING)
L1	235.18'	S21° 00' 30"E	(1285019.8398,499243.1051)	(1285104.1529,499023.5589)

OXFORD WEST BASELINE CONSTRUCTION CURVE DATA						
CURVE	DELTA	Dc	RADIUS	LENGTH	CHORD	EXTERNAL
C15	1°37'12"	3°49'32"	1498.00'	42.35'	42.35'	0.15'

OXFORD WEST BASELINE CONSTRUCTION LINE DATA				
LINE	LENGTH	BEARING	START POINT (NORTHING, EASTING)	END POINT (NORTHING, EASTING)
L8	20.60'	S77° 57' 03"E	(1285691.9100,497743.1216)	(1285712.0585,497738.8208)
L9	65.04'	S76° 19' 51"E	(1285753.3482,497729.3951)	(1285816.5502,497714.0242)

MONTROSE BASELINE CONSTRUCTION LINE DATA				
LINE	LENGTH	BEARING	START POINT (NORTHING, EASTING)	END POINT (NORTHING, EASTING)
L7	299.99'	S12° 47' 38"W	(1285831.7667,497837.0972)	(1285765.3354,497544.5520)

OXFORD EAST BASELINE CONSTRUCTION LINE DATA				
LINE	LENGTH	BEARING	START POINT (NORTHING, EASTING)	END POINT (NORTHING, EASTING)
L10	1412.65'	S76° 38' 55"E	(1285768.3312,497618.8328)	(1287142.8050,497292.6204)



GEOMETRIC LAYOUT
OXFORD STREET WEST: STA. 40+00 – STA. 41+28
MONTROSE STREET: STA. 30+00 – STA. 33+00
OXFORD STREET EAST: STA. 42+00 – STA. 56+13

GRAPHIC SCALE
60 0 30 60 120 240
(IN FEET)
1 inch = 60 ft.

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

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LICENSE NO. 31168

EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND · JASON A. AZAR · 31168 · REGISTERED PROFESSIONAL ENGINEER

9-Dec-17

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REVISIONS

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

GEOMETRIC LAYOUT

SCALE 1" = 60' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME
DRAWN BY ME
CHECKED BY JA
F.A.P. NO. TBD
COUNTY MONTGOMERY
LOGMILE
HORIZONTAL SCALE
VERTICAL SCALE

DRAWING NO. GS-01 OF 2
SHEET NO. 5 OF 29

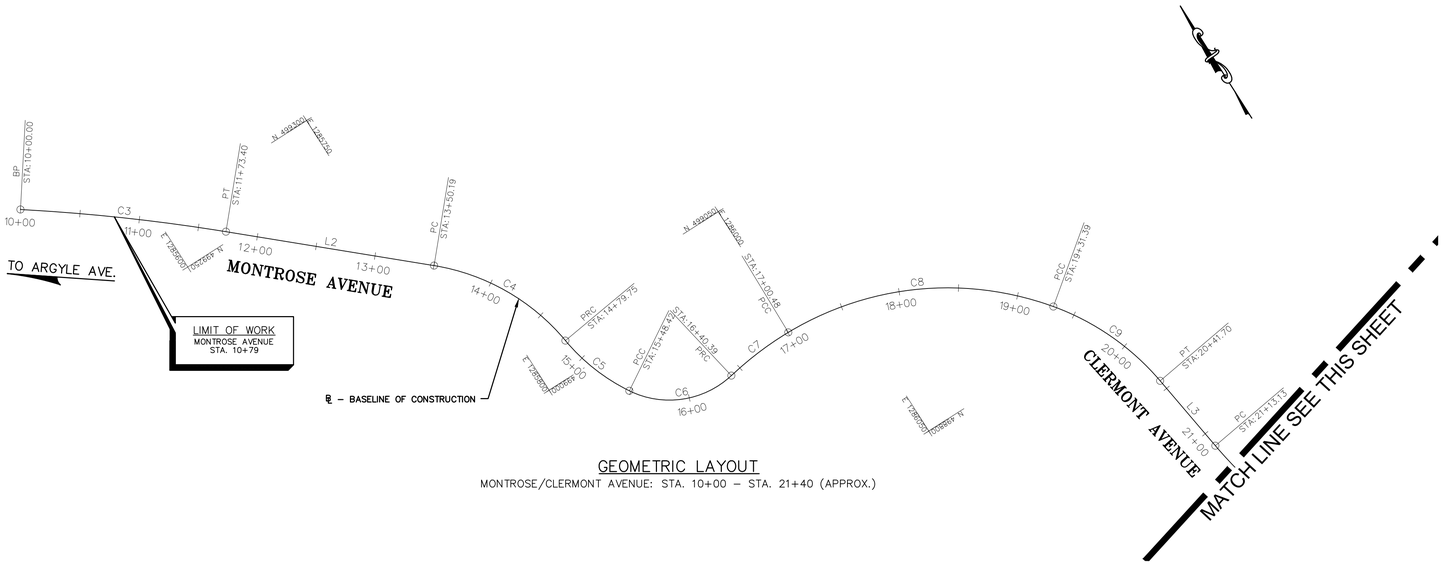
PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\GS01-02 GEOMETRY SHEETS.dwg

DRILL HOLES
DRILL HOLES
DRILL HOLES

DRILL HOLES

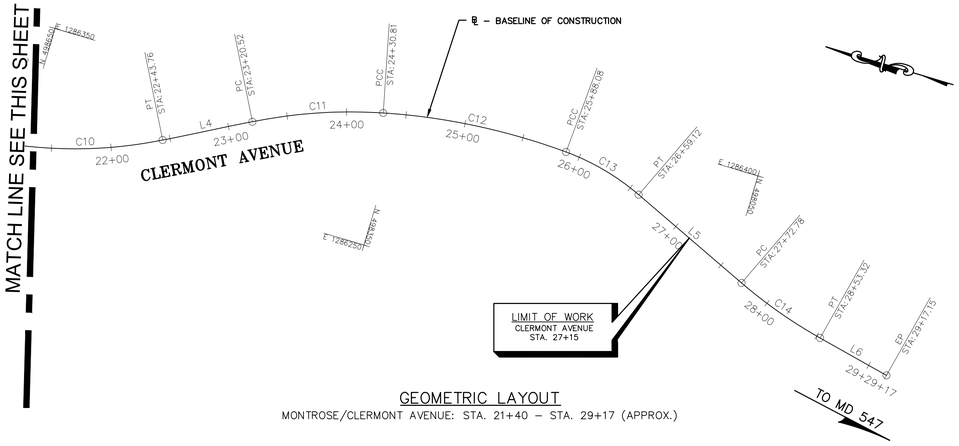
DRILL HOLES

DRILL HOLES



GEOMETRIC LAYOUT

MONTROSE/CLERMONT AVENUE: STA. 10+00 – STA. 21+40 (APPROX.)



GEOMETRIC LAYOUT

MONTROSE/CLERMONT AVENUE: STA. 21+40 – STA. 29+17 (APPROX.)

MONTROSE/CLERMONT BASELINE CONSTRUCTION CURVE DATA

CURVE	DELTA	Dc	RADIUS	LENGTH	CHORD	EXTERNAL
C3	6°12'34"	3°34'54"	1600.00'	173.40'	173.32'	2.35'
C4	40°53'58"	31°58'53"	181.50'	129.56'	126.83'	12.21'
C5	23°59'27"	35°30'06"	164.00'	68.67'	68.17'	3.66'
C6	69°20'01"	82°16'44"	76.00'	91.97'	86.46'	16.40'
C7	11°57'15"	19°59'44"	288.00'	60.09'	59.98'	1.57'
C8	51°16'46"	22°20'57"	258.00'	230.91'	223.28'	28.18'
C9	29°32'09"	27°01'25"	214.00'	110.32'	109.10'	7.31'
C10	20°13'42"	15°31'58"	370.00'	130.63'	129.95'	5.84'
C11	15°18'04"	13°54'26"	413.00'	110.29'	109.97'	3.71'
C12	16°29'15"	10°29'56"	546.50'	157.26'	156.72'	5.71'
C13	20°21'04"	28°57'18"	200.00'	71.04'	70.67'	3.20'
C14	11°15'21"	14°00'34"	410.00'	80.54'	80.41'	1.99'

MONTROSE/CLERMONT BASELINE CONSTRUCTION LINE DATA

LINE	LENGTH	BEARING	START POINT (NORTHING, EASTING)	END POINT (NORTHING, EASTING)
L2	176.79'	S48° 13' 22"E	(1285642.9769,499257.7143)	(1285774.8175,499139.9291)
L3	71.42'	S7° 52' 42"E	(1286236.2639,498731.2074)	(1286246.0537,498660.4592)
L4	76.76'	S28° 06' 24"E	(1286286.1951,498536.8620)	(1286322.3602,498469.1499)
L5	113.66'	S24° 01' 59"W	(1286356.3320,498141.2852)	(1286310.0423,498037.4785)
L6	63.83'	S12° 46' 39"W	(1286284.6525,497961.1771)	(1286270.5346,497898.9237)

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

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LICENSE NO. 31168

EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND · JASON A. AZAR · No. 31168 · REGISTERED PROFESSIONAL ENGINEER

9/20/17

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.

CROSS REFERENCE	
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TREE PROTECTION PLANS	24 – 28
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REVISIONS

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\GS01-02 GEOMETRY SHEETS.dwg

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

GEOMETRIC LAYOUT

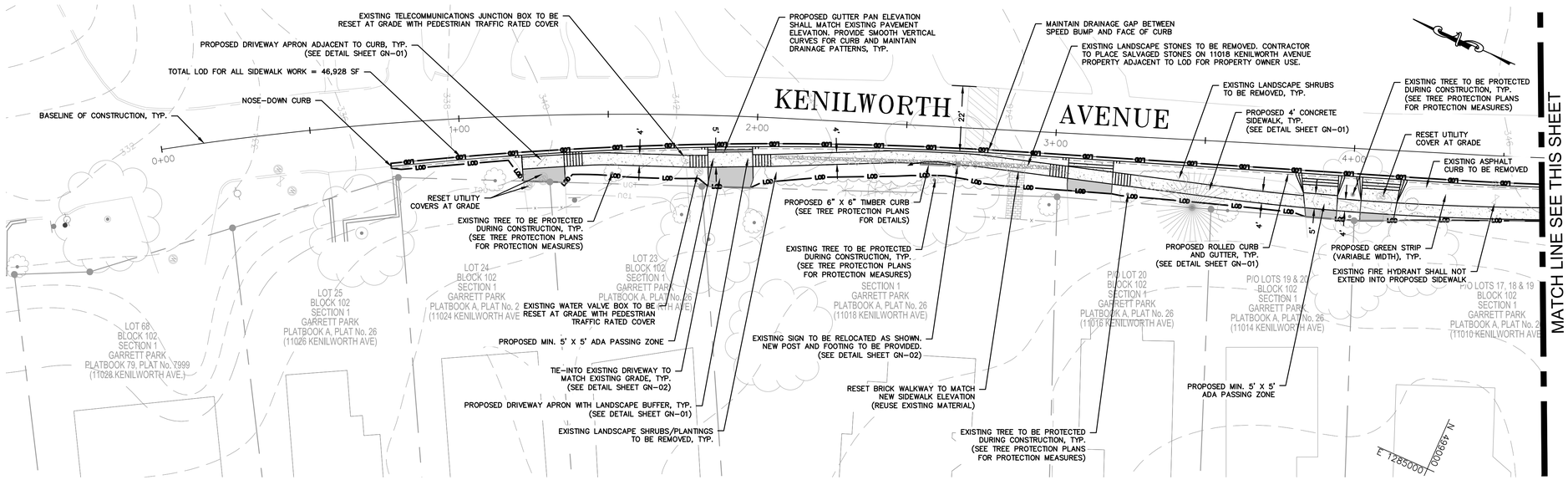
SCALE 1" = 60' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME
DRAWN BY ME
CHECKED BY JA
F.A.P. NO. TBD

COUNTY MONTGOMERY
LOGMILE
HORIZONTAL SCALE
VERTICAL SCALE

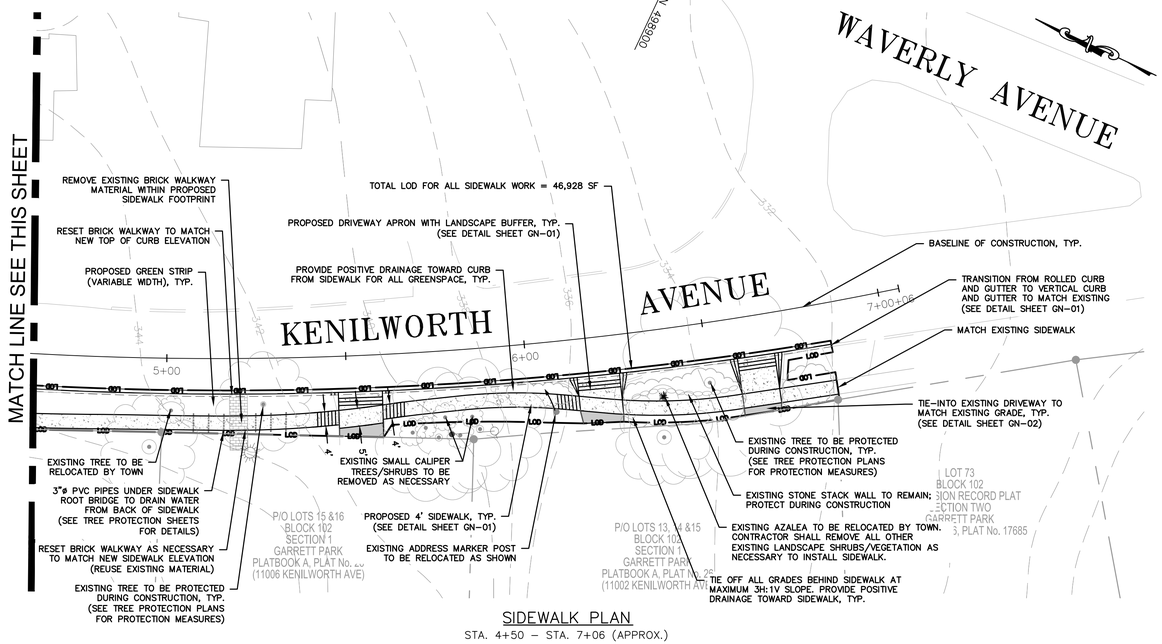
DRAWING NO. GS-02 OF 2

SHEET NO. 6 OF 29



SIDEWALK PLAN

STA. 0+00 – STA. 4+50 (APPROX.)



SIDEWALK PLAN

STA. 4+50 – STA. 7+06 (APPROX.)

GENERAL NOTES:

1. ALL SIDEWALKS TO HAVE 2% CROSS-SLOPE MAXIMUM.
2. ALL CONCRETE USED FOR THIS PROJECT TO BE COLORED CONCRETE PER THE TOWN OF GARRETT PARK SPECIFICATIONS. A TEST PANEL SHALL BE POURED FOR INSPECTION BY THE TOWN PRIOR TO PLACEMENT OF ANY CONCRETE TO ENSURE PROPER COLORING.
3. A MINIMUM 5' X 5' ADA PASSING ZONE MUST BE PROVIDED ALONG THE ROUTE AT LEAST EVERY 200 LINEAR FEET OF SIDEWALK PER MDSHA AND ADA REQUIREMENTS. SEE PLANS FOR SPECIFIC LOCATIONS.
4. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE TOPOGRAPHY ALONG ROUTE OF PROJECT.
5. ALL GRADING TO BE AT A MAXIMUM 3:1 SLOPE TO MATCH EXISTING GRADE WITHIN PROJECT LOD.
6. SIDEWALK SHALL BE SLOPED TOWARDS ROADWAY UNLESS OTHERWISE SPECIFIED.
7. TREE PROTECTION MUST BE PROVIDED FOR TREES LOCATED WITHIN THE LOD ALONG THE LENGTH OF THE PROJECT DURING CONSTRUCTION. REFER TO TREE PROTECTION PLAN SHEETS FOR DETAILS AND SPECIFICATIONS.
8. THE TOWN SHALL REVIEW ALL SIDEWALK FORMWORK FOR ALIGNMENT VERIFICATION PRIOR TO PLACEMENT OF CONCRETE.
9. CURBS SHALL BE PLACED ON SMOOTH HORIZONTAL CURVES AND SHALL NOT BE FORMED WITH A SERIES OF TANGENTS.
10. SIDEWALKS SHALL CURVE AS SHOWN. NO SHARP BREAKS IN ALIGNMENT WILL BE ALLOWED UNLESS SPECIFICALLY NOTED. SIDEWALKS SHALL HAVE SWEEPING CURVES AS SHOWN.
11. ALL DRAINAGE PIPES FROM PRIVATE PROPERTIES CONVEYING STORMWATER INTO PUBLIC RIGHT-OF-WAY MUST BE PRESERVED. EXISTING DRAINAGE PATTERNS TO BE MAINTAINED UNLESS OTHERWISE SPECIFIED ON PLANS.
12. PROPOSED ROLLED CURB SHALL TRANSITION TO VERTICAL CURB AT ALL INTERSECTIONS, CROSSWALK RAMPS, AND STORMDRAIN CURB INLETS.

KENILWORTH AVENUE ALIGNMENT OFFSET TABLE
℄ TO FACE OF CURB

Side	Station	Offset
RT	0+76.19	14.40'
RT	1+01.53	13.71'
RT	1+26.84	12.90'
RT	1+52.13	11.98'
RT	1+77.39	10.95'
RT	2+02.62	9.80'
RT	2+27.66	8.69'
RT	2+52.65	8.06'
RT	2+77.65	7.92'
RT	3+02.65	8.20'
RT	3+27.65	8.51'
RT	3+52.65	8.82'
RT	3+77.65	9.14'
RT	4+02.64	9.45'
RT	4+27.64	9.77'
RT	4+52.56	9.87'
RT	4+77.31	9.85'
RT	5+02.04	9.89'
RT	5+26.78	9.98'
RT	5+51.52	10.11'
RT	5+76.25	10.30'
RT	6+00.97	10.53'
RT	6+25.69	10.82'
RT	6+50.40	11.15'
RT	6+75.10	11.53'
RT	6+84.53	11.68'

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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LICENSE NO. 31168

EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND JASON A. AZAR 31168 REGISTERED PROFESSIONAL ENGINEER

9/20/17

CROSS REFERENCE

REVISIONS

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

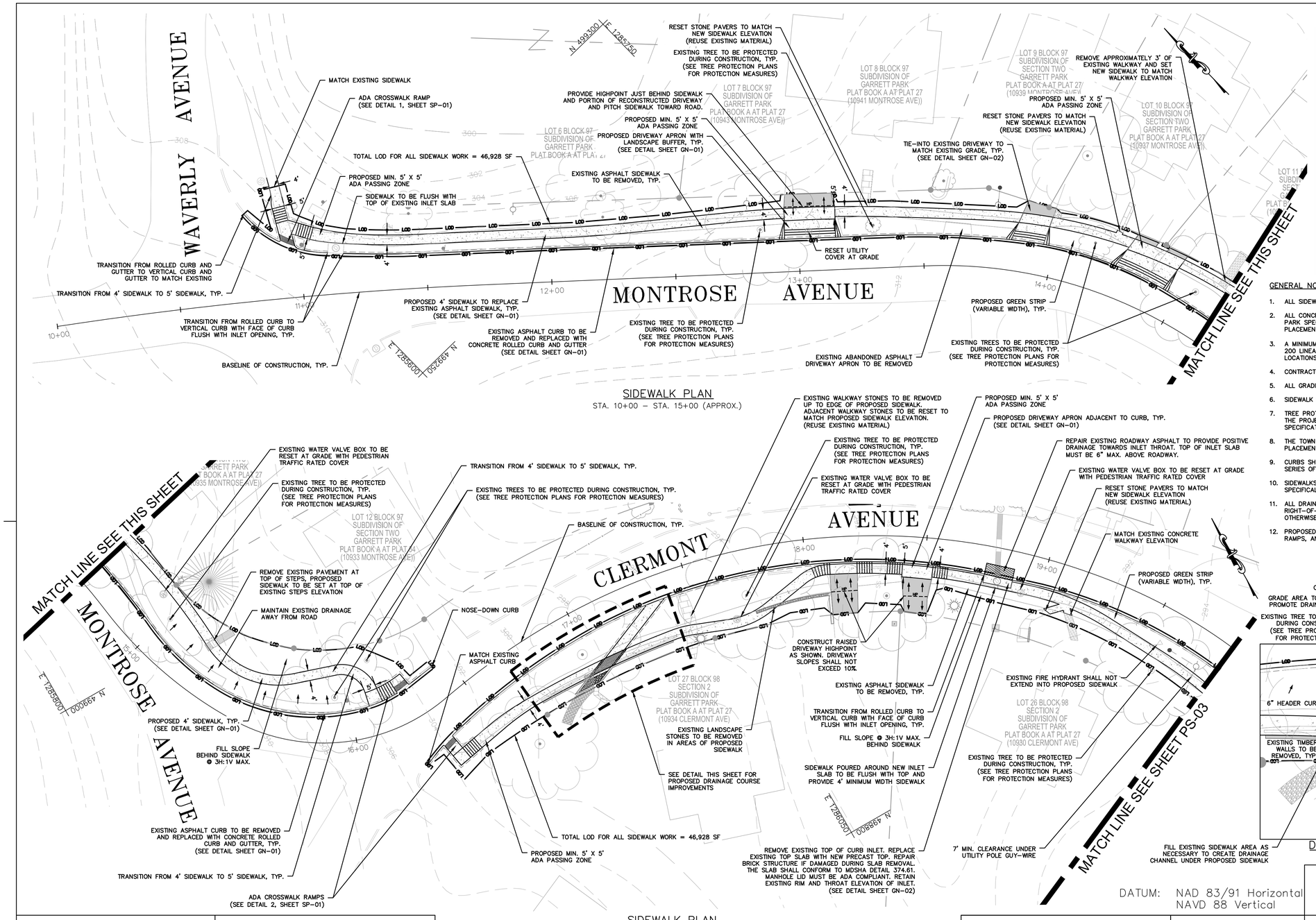
SIDEWALK PLAN

SCALE 1" = 20' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME COUNTY MONTGOMERY
DRAWN BY ME LOGMILE
CHECKED BY JA HORIZONTAL SCALE
F.A.P. NO. TBD VERTICAL SCALE

DRAWING NO. PS-01 OF 5 SHEET NO. 7 OF 29

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\PS01-05 PLAN SHEETS.dwg



SIDEWALK PLAN
STA. 10+00 – STA. 15+00 (APPROX.)

SIDEWALK PLAN
STA. 15+00 – STA. 19+75 (APPROX.)

DRAINAGE CHANNEL IMPROVEMENTS DETAIL
SCALE: 1" = 10'

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

MONTROSE/CLERMONT AVENUE ALIGNMENT OFFSET TABLE
℄ TO FACE OF CURB

Side	Station	Offset
LT	10+79.25	-35.45'
LT	10+98.11	-19.95'
LT	11+22.36	-15.55'
LT	11+47.08	-14.00'
LT	11+71.86	-13.66'
LT	11+96.85	-13.56'
LT	12+21.85	-13.46'
LT	12+46.85	-13.35'
LT	12+71.85	-13.25'
LT	12+96.85	-13.15'
LT	13+21.85	-13.04'
LT	13+46.85	-12.72'
LT	13+70.47	-12.06'
LT	13+93.87	-12.67'
LT	14+17.22	-12.85'
LT	14+40.59	-12.09'
LT	14+64.08	-10.96'
LT	14+88.74	-10.97'
LT	15+15.20	-8.62'
LT	15+41.51	-8.40'
LT	15+69.51	-10.68'
LT	15+98.89	-11.96'
LT	16+28.71	-13.14'
LT	16+44.40	-13.35'

Side	Station	Offset
RT	16+21.75	18.43'
RT	16+42.34	12.65'
RT	16+68.42	11.69'
RT	16+94.42	10.86'
RT	17+20.45	10.24'
RT	17+46.48	10.11'
RT	17+72.49	10.05'
RT	17+98.51	10.16'
RT	18+24.54	10.44'
RT	18+50.62	10.89'
RT	18+76.74	11.52'
RT	19+02.89	11.11'
RT	19+28.99	10.73'
RT	19+55.29	10.75'
RT	19+81.61	10.86'

GENERAL NOTES:

1. ALL SIDEWALKS TO HAVE 2% CROSS-SLOPE MAXIMUM.
2. ALL CONCRETE USED FOR THIS PROJECT TO BE COLORED CONCRETE PER THE TOWN OF GARRETT PARK SPECIFICATIONS. A TEST PANEL SHALL BE POURED FOR INSPECTION BY THE TOWN PRIOR TO PLACEMENT OF ANY CONCRETE TO ENSURE PROPER COLORING.
3. A MINIMUM 5' X 5' ADA PASSING ZONE MUST BE PROVIDED ALONG THE ROUTE AT LEAST EVERY 200 LINEAR FEET OF SIDEWALK PER MDSHA AND ADA REQUIREMENTS. SEE PLANS FOR SPECIFIC LOCATIONS.
4. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE TOPOGRAPHY ALONG ROUTE OF PROJECT.
5. ALL GRADING TO BE AT A MAXIMUM 3:1 SLOPE TO MATCH EXISTING GRADE WITHIN PROJECT LOD.
6. SIDEWALK SHALL BE SLOPED TOWARDS ROADWAY UNLESS OTHERWISE SPECIFIED.
7. TREE PROTECTION MUST BE PROVIDED FOR TREES LOCATED WITHIN THE LOD ALONG THE LENGTH OF THE PROJECT DURING CONSTRUCTION. REFER TO TREE PROTECTION PLAN SHEETS FOR DETAILS AND SPECIFICATIONS.
8. THE TOWN SHALL REVIEW ALL SIDEWALK FORMWORK FOR ALIGNMENT VERIFICATION PRIOR TO PLACEMENT OF CONCRETE.
9. CURBS SHALL BE PLACED ON SMOOTH HORIZONTAL CURVES AND SHALL NOT BE FORMED WITH A SERIES OF TANGENTS.
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12. PROPOSED ROLLED CURB SHALL TRANSITION TO VERTICAL CURB AT ALL INTERSECTIONS, CROSSWALK RAMPS, AND STORMDRAIN CURB INLETS.

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LICENSE NO. 31168
EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND — JASON AZAR — 31168 — PROFESSIONAL ENGINEER
9/20/17

CROSS REFERENCE

REVISIONS

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

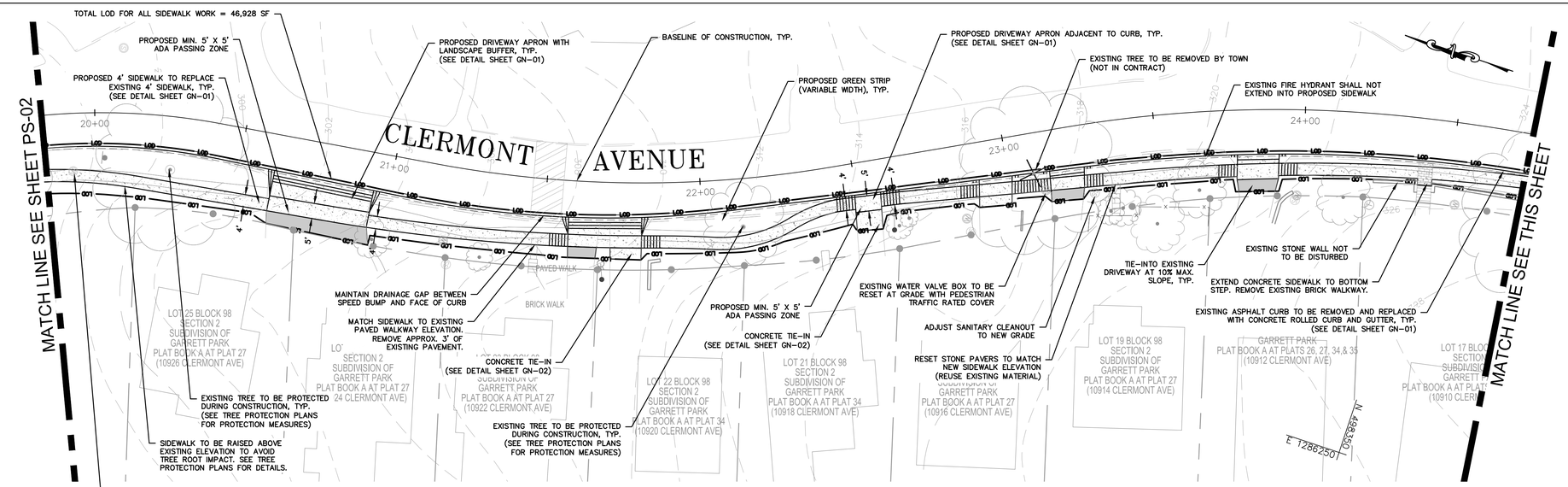
SIDEWALK PLAN

SCALE 1" = 20' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME
DRAWN BY ME
CHECKED BY JA
F.A.P. NO. TBD
COUNTY MONTGOMERY
LOGMILE
HORIZONTAL SCALE
VERTICAL SCALE

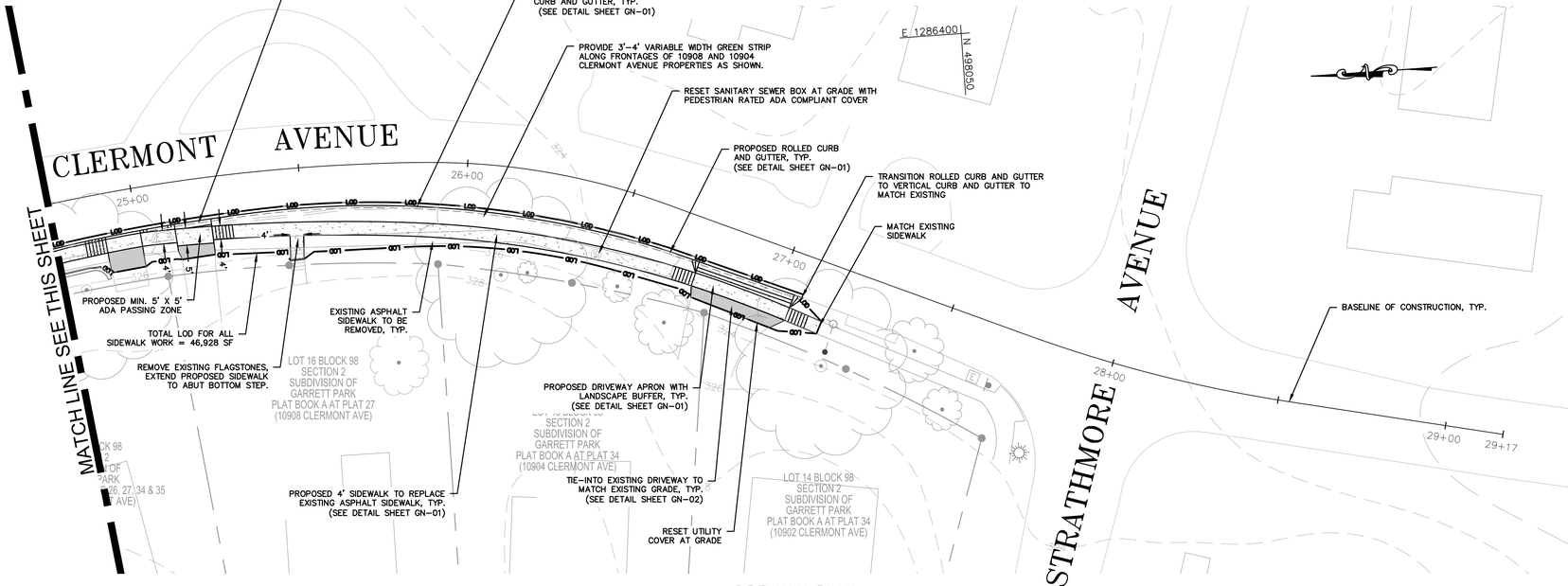
DRAWING NO. PS-02 OF 5
SHEET NO. 8 OF 29

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\PS01-05 PLAN SHEETS.dwg



SIDEWALK PLAN

STA. 19+75 – STA. 24+75 (APPROX.)



SIDEWALK PLAN

STA. 24+75 – STA. 29+17 (APPROX.)

GENERAL NOTES:

1. ALL SIDEWALKS TO HAVE 2% CROSS-SLOPE MAXIMUM.
2. ALL CONCRETE USED FOR THIS PROJECT TO BE COLORED CONCRETE PER THE TOWN OF GARRETT PARK SPECIFICATIONS. A TEST PANEL SHALL BE POURED FOR INSPECTION BY THE TOWN PRIOR TO PLACEMENT OF ANY CONCRETE TO ENSURE PROPER COLORING.
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12. PROPOSED ROLLED CURB SHALL TRANSITION TO VERTICAL CURB AT ALL INTERSECTIONS, CROSSWALK RAMPS, AND STORMDRAIN CURB INLETS.

CLERMONT AVENUE ALIGNMENT OFFSET TABLE

℄ TO FACE OF CURB

Side	Station	Offset
RT	20+07.96	11.06'
RT	20+34.34	11.34'
RT	20+59.73	11.77'
RT	20+84.73	12.19'
RT	21+09.72	12.59'
RT	21+34.01	12.43'
RT	21+58.21	11.98'
RT	21+82.44	11.25'
RT	22+06.71	10.25'
RT	22+31.05	9.73'
RT	22+55.69	10.65'
RT	22+80.67	11.80'
RT	23+05.64	12.94'
RT	23+30.97	13.96'
RT	23+56.86	14.46'
RT	23+82.77	14.61'
RT	24+08.68	14.37'
RT	24+34.53	13.95'
RT	24+60.17	13.42'
RT	24+85.78	12.94'
RT	25+11.37	12.50'
RT	25+36.94	12.02'
RT	25+62.50	12.10'
RT	25+88.06	13.17'
RT	26+14.88	14.14'
RT	26+41.78	13.92'
RT	26+67.93	12.78'
RT	26+92.93	12.47'
RT	27+07.11	12.30'

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

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LICENSE NO. 31168

EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND · JASON A. AZAR · 31168 · PROFESSIONAL ENGINEER

9/20/17

CROSS REFERENCE

ITEM	SHEET NOs.
COVER	1
GENERAL NOTES AND TYPICAL DETAILS	2 – 3
TYPICAL SECTIONS	4
GEOMETRIC LAYOUT	5 – 6
SIDEWALK PLANS	7 – 11
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REVISIONS

TOWN OF GARRETT PARK

PEDESTRIAN FACILITY DESIGN SERVICES

SAFE ROUTES TO SCHOOL (SRTS)

SIDEWALK PLAN

SCALE 1" = 20' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME COUNTY MONTGOMERY

DRAWN BY ME LOGMILE

CHECKED BY JA HORIZONTAL SCALE

F.A.P. NO. TBD VERTICAL SCALE

DRAWING NO. PS-03 OF 5 SHEET NO. 9 OF 29

PLOTTED:3/6/2017 11:39 AM
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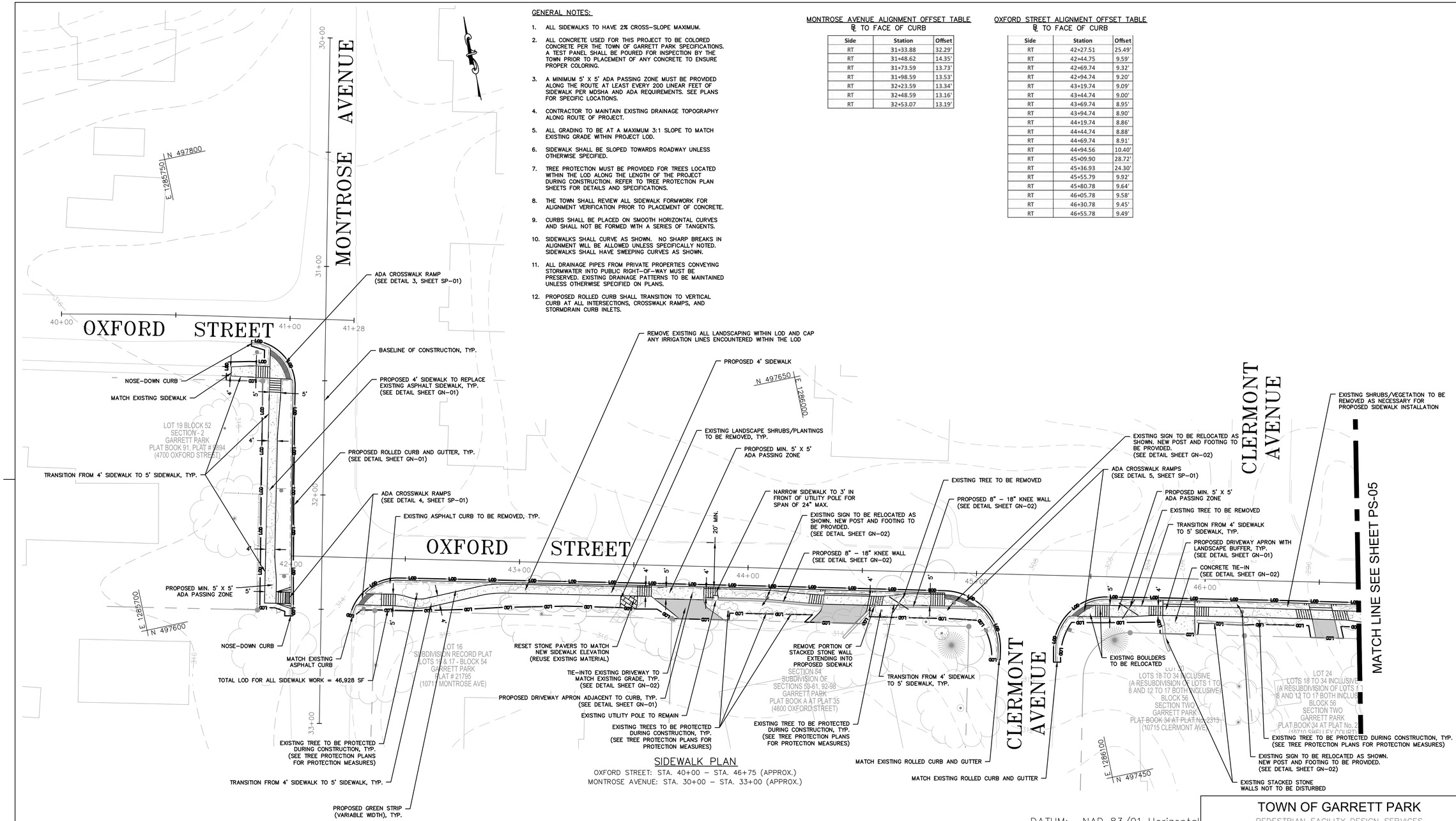
DRILL HOLES
DRILL HOLES
DRILL HOLES

DRILL HOLES

DRILL HOLES

DRILL HOLES



SIDEWALK PLAN

OXFORD STREET: STA. 40+00 – STA. 46+75 (APPROX.)
MONTROSE AVENUE: STA. 30+00 – STA. 33+00 (APPROX.)

GENERAL NOTES:

1. ALL SIDEWALKS TO HAVE 2% CROSS-SLOPE MAXIMUM.
2. ALL CONCRETE USED FOR THIS PROJECT TO BE COLORED CONCRETE PER THE TOWN OF GARRETT PARK SPECIFICATIONS. A TEST PANEL SHALL BE POURED FOR INSPECTION BY THE TOWN PRIOR TO PLACEMENT OF ANY CONCRETE TO ENSURE PROPER COLORING.
3. A MINIMUM 5' X 5' ADA PASSING ZONE MUST BE PROVIDED ALONG THE ROUTE AT LEAST EVERY 200 LINEAR FEET OF SIDEWALK PER MDSHA AND ADA REQUIREMENTS. SEE PLANS FOR SPECIFIC LOCATIONS.
4. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE TOPOGRAPHY ALONG ROUTE OF PROJECT.
5. ALL GRADING TO BE AT A MAXIMUM 3:1 SLOPE TO MATCH EXISTING GRADE WITHIN PROJECT LOD.
6. SIDEWALK SHALL BE SLOPED TOWARDS ROADWAY UNLESS OTHERWISE SPECIFIED.
7. TREE PROTECTION MUST BE PROVIDED FOR TREES LOCATED WITHIN THE LOD ALONG THE LENGTH OF THE PROJECT DURING CONSTRUCTION. REFER TO TREE PROTECTION PLAN SHEETS FOR DETAILS AND SPECIFICATIONS.
8. THE TOWN SHALL REVIEW ALL SIDEWALK FORMWORK FOR ALIGNMENT VERIFICATION PRIOR TO PLACEMENT OF CONCRETE.
9. CURBS SHALL BE PLACED ON SMOOTH HORIZONTAL CURVES AND SHALL NOT BE FORMED WITH A SERIES OF TANGENTS.
10. SIDEWALKS SHALL CURVE AS SHOWN. NO SHARP BREAKS IN ALIGNMENT WILL BE ALLOWED UNLESS SPECIFICALLY NOTED. SIDEWALKS SHALL HAVE SWEEPING CURVES AS SHOWN.
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12. PROPOSED ROLLED CURB SHALL TRANSITION TO VERTICAL CURB AT ALL INTERSECTIONS, CROSSWALK RAMPS, AND STORMDRAIN CURB INLETS.

MONTROSE AVENUE ALIGNMENT OFFSET TABLE
℄ TO FACE OF CURB

Side	Station	Offset
RT	31+33.88	32.29'
RT	31+48.62	14.35'
RT	31+73.59	13.73'
RT	31+98.59	13.53'
RT	32+23.59	13.34'
RT	32+48.59	13.16'
RT	32+53.07	13.19'

OXFORD STREET ALIGNMENT OFFSET TABLE
℄ TO FACE OF CURB

Side	Station	Offset
RT	42+27.51	25.49'
RT	42+44.75	9.59'
RT	42+69.74	9.32'
RT	42+94.74	9.20'
RT	43+19.74	9.09'
RT	43+44.74	9.00'
RT	43+69.74	8.95'
RT	43+94.74	8.90'
RT	44+19.74	8.86'
RT	44+44.74	8.88'
RT	44+69.74	8.91'
RT	44+94.56	10.40'
RT	45+09.90	28.72'
RT	45+36.93	24.30'
RT	45+55.79	9.92'
RT	45+80.78	9.64'
RT	46+05.78	9.58'
RT	46+30.78	9.45'
RT	46+55.78	9.49'

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

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LICENSE NO. 31168
EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND · JASON A. AZAR · 31168 · PROFESSIONAL ENGINEER
9/20/17

CROSS REFERENCE

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REVISIONS

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

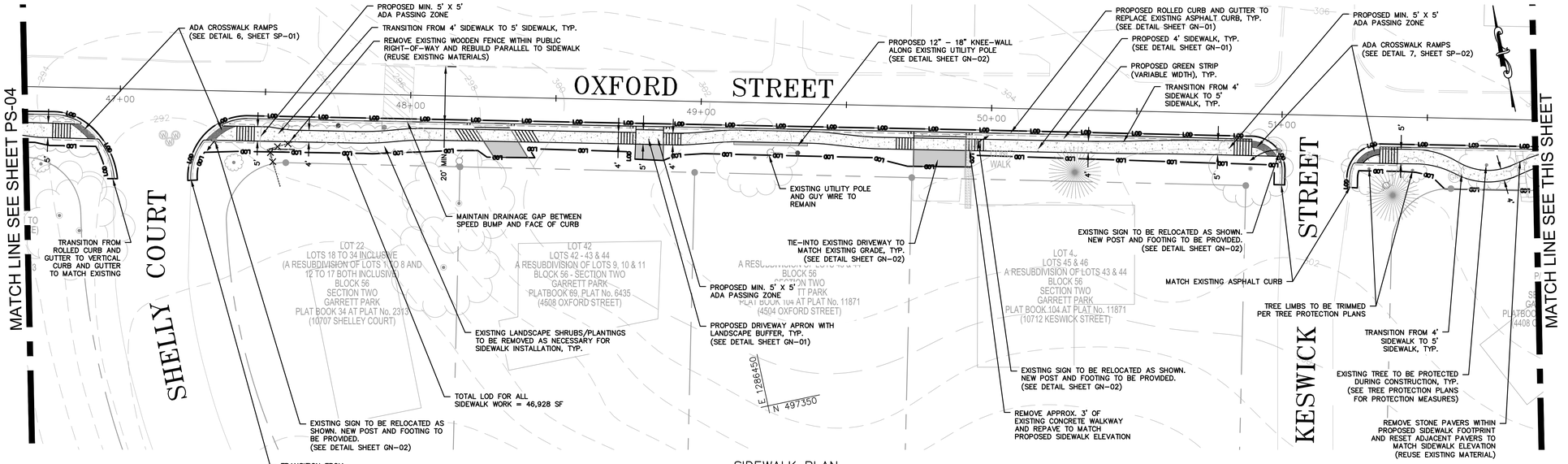
SIDEWALK PLAN

SCALE 1" = 20' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME COUNTY MONTGOMERY
DRAWN BY ME LOGMILE
CHECKED BY JA HORIZONTAL SCALE
F.A.P. NO. TBD VERTICAL SCALE

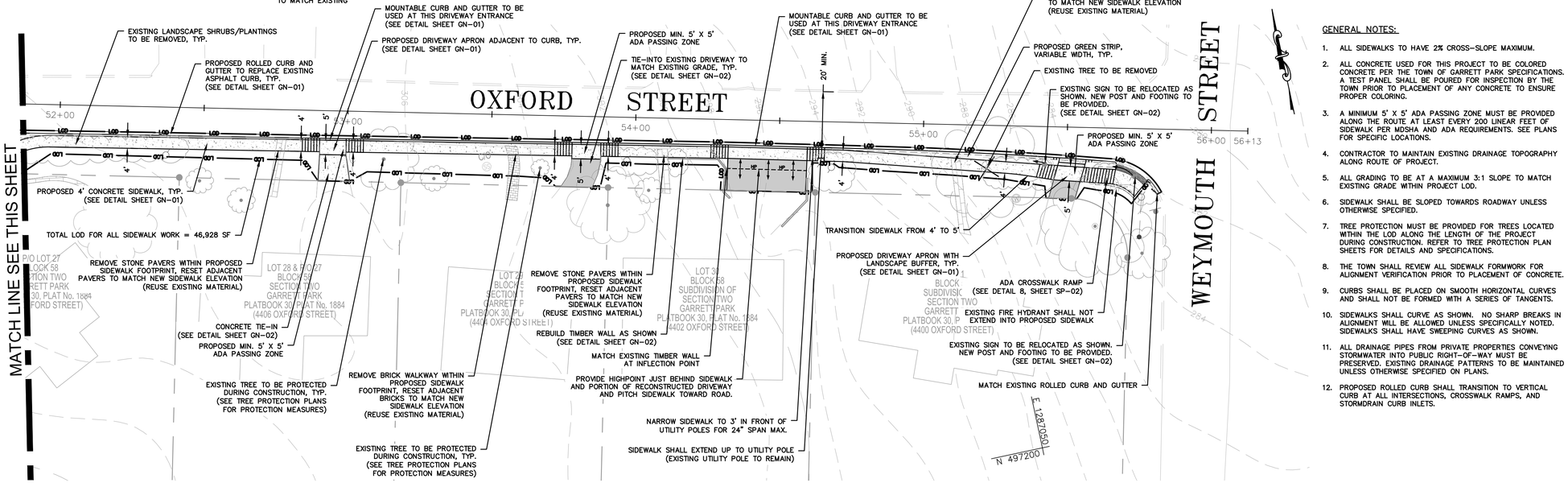
DRAWING NO. PS-04 OF 5 SHEET NO. 10 OF 29

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\PS01-05 PLAN SHEETS.dwg



SIDEWALK PLAN

STA. 46+75 – STA. 52+00 (APPROX.)



SIDEWALK PLAN

STA. 52+00 – STA. 56+13 (APPROX.)

GENERAL NOTES:

1. ALL SIDEWALKS TO HAVE 2% CROSS-SLOPE MAXIMUM.
2. ALL CONCRETE USED FOR THIS PROJECT TO BE COLORED CONCRETE PER THE TOWN OF GARRETT PARK SPECIFICATIONS. A TEST PANEL SHALL BE POURED FOR INSPECTION BY THE TOWN PRIOR TO PLACEMENT OF ANY CONCRETE TO ENSURE PROPER COLORING.
3. A MINIMUM 5' X 5' ADA PASSING ZONE MUST BE PROVIDED ALONG THE ROUTE AT LEAST EVERY 200 LINEAR FEET OF SIDEWALK PER MDSHA AND ADA REQUIREMENTS. SEE PLANS FOR SPECIFIC LOCATIONS.
4. CONTRACTOR TO MAINTAIN EXISTING DRAINAGE TOPOGRAPHY ALONG ROUTE OF PROJECT.
5. ALL GRADING TO BE AT A MAXIMUM 3:1 SLOPE TO MATCH EXISTING GRADE WITHIN PROJECT LOD.
6. SIDEWALK SHALL BE SLOPED TOWARDS ROADWAY UNLESS OTHERWISE SPECIFIED.
7. TREE PROTECTION MUST BE PROVIDED FOR TREES LOCATED WITHIN THE LOD ALONG THE LENGTH OF THE PROJECT DURING CONSTRUCTION. REFER TO TREE PROTECTION PLAN SHEETS FOR DETAILS AND SPECIFICATIONS.
8. THE TOWN SHALL REVIEW ALL SIDEWALK FORMWORK FOR ALIGNMENT VERIFICATION PRIOR TO PLACEMENT OF CONCRETE.
9. CURBS SHALL BE PLACED ON SMOOTH HORIZONTAL CURVES AND SHALL NOT BE FORMED WITH A SERIES OF TANGENTS.
10. SIDEWALKS SHALL CURVE AS SHOWN. NO SHARP BREAKS IN ALIGNMENT WILL BE ALLOWED UNLESS SPECIFICALLY NOTED. SIDEWALKS SHALL HAVE SWEEPING CURVES AS SHOWN.
11. ALL DRAINAGE PIPES FROM PRIVATE PROPERTIES CONVEYING STORMWATER INTO PUBLIC RIGHT-OF-WAY MUST BE PRESERVED. EXISTING DRAINAGE PATTERNS TO BE MAINTAINED UNLESS OTHERWISE SPECIFIED ON PLANS.
12. PROPOSED ROLLED CURB SHALL TRANSITION TO VERTICAL CURB AT ALL INTERSECTIONS, CROSSWALK RAMPS, AND STORMDRAIN CURB INLETS.

OXFORD STREET ALIGNMENT OFFSET TABLE
℄ TO FACE OF CURB

Side	Station	Offset
RT	46+80.76	9.73'
RT	46+97.69	26.40'
RT	47+30.36	15.39'
RT	47+53.66	9.30'
RT	47+78.66	9.23'
RT	48+03.66	9.17'
RT	48+28.66	9.10'
RT	48+53.66	9.03'
RT	48+78.66	8.97'
RT	49+03.66	8.90'
RT	49+28.66	8.83'
RT	49+53.66	8.77'
RT	49+78.66	8.70'
RT	50+03.66	8.63'
RT	50+28.66	8.57'
RT	50+53.66	8.62'
RT	50+78.66	8.69'
RT	51+00.04	16.58'
RT	51+31.51	10.82'
RT	51+56.46	10.28'
RT	51+81.46	10.15'
RT	52+06.46	10.02'
RT	52+31.46	9.89'
RT	52+56.46	9.78'
RT	52+81.46	9.67'
RT	53+06.46	9.53'
RT	53+31.46	9.39'
RT	53+56.46	9.25'
RT	53+81.46	9.10'
RT	54+06.46	8.96'
RT	54+31.46	8.82'
RT	54+56.46	8.95'
RT	54+81.46	9.09'
RT	55+06.46	9.38'
RT	55+31.45	10.07'
RT	55+56.42	11.15'
RT	55+79.48	18.39'
RT	55+82.27	22.27'

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LICENSE NO. 31168

EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND JASON AZAR 31168 REGISTERED PROFESSIONAL ENGINEER

9/20/17

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

CROSS REFERENCE

ITEM	SHEET NOs.
COVER	1
GENERAL NOTES AND TYPICAL DETAILS	2 – 3
TYPICAL SECTIONS	4
GEOMETRIC LAYOUT	5 – 6
SIDEWALK PLANS	7 – 11
ADA ENLARGEMENTS	12 – 13
EROSION & SEDIMENT CONTROL PLANS	14 – 18
EROSION & SEDIMENT CONTROL DETAILS	19
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OUTFALL STABILIZATION PLAN AND DETAILS	21 – 23
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REVISIONS

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

SIDEWALK PLAN

SCALE 1" = 20' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

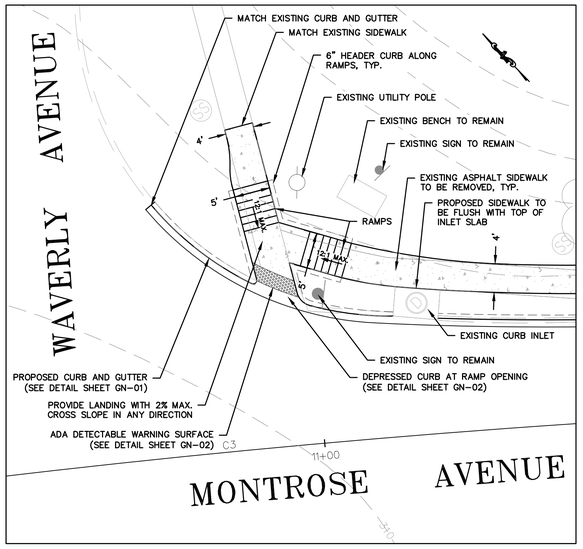
DESIGNED BY ME
DRAWN BY ME
CHECKED BY JA
F.A.P. NO. TBD
COUNTY MONTGOMERY
LOGMILE
HORIZONTAL SCALE
VERTICAL SCALE

DRAWING NO. PS-05 OF 5
SHEET NO. 11 OF 29

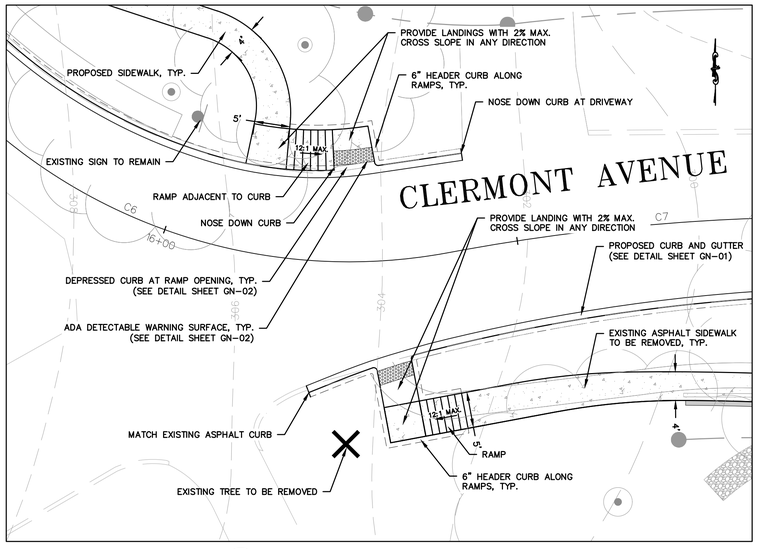
PLOTTED:3/6/2017 11:39 AM
FILE:z:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\PS01-05 PLAN SHEETS.dwg

DRILL HOLES
DRILL HOLES
DRILL HOLES

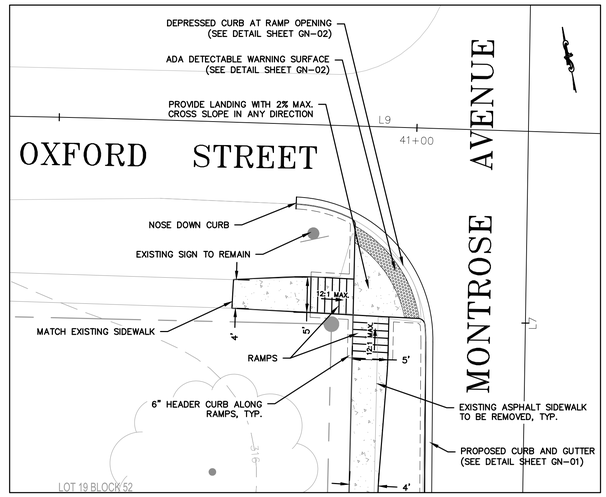
DRILL HOLES



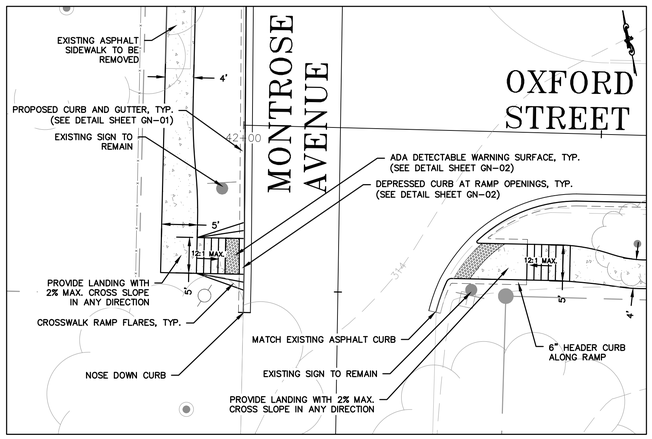
1 ADA CROSSWALK RAMP ENLARGEMENT 1
MONTROSE AVENUE STA. 11+00 LT (APPROX.)
SCALE: 1" = 10'



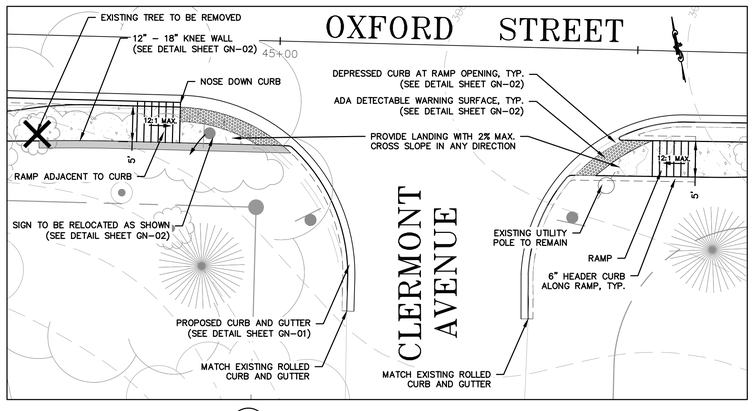
2 ADA CROSSWALK RAMP ENLARGEMENT 2
CLERMONT AVENUE STA. 16+30 LT & RT (APPROX.)
SCALE: 1" = 10'



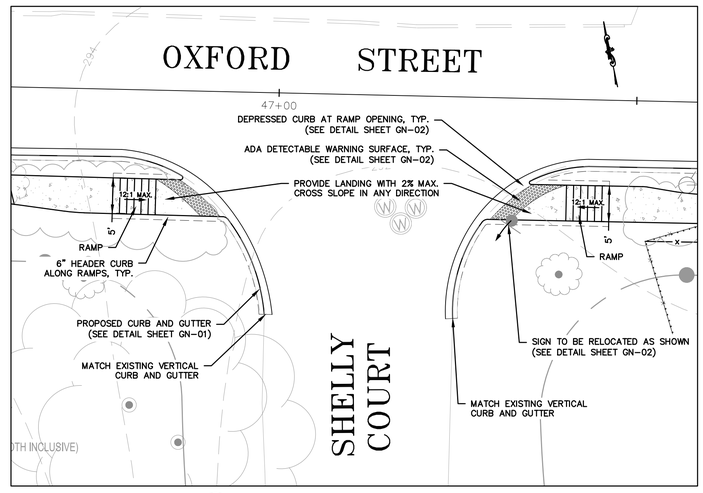
3 ADA CROSSWALK RAMP ENLARGEMENT 3
OXFORD STREET STA. 41+00 RT (APPROX.)
SCALE: 1" = 10'



4 ADA CROSSWALK RAMP ENLARGEMENT 4
OXFORD STREET STA. 42+00 RT & STA. 42+30 RT (APPROX.)
SCALE: 1" = 10'



5 ADA CROSSWALK RAMP ENLARGEMENT 5
OXFORD STREET STA. 45+00 RT & STA. 45+50 RT (APPROX.)
SCALE: 1" = 10'



6 ADA CROSSWALK RAMP ENLARGEMENT 6
OXFORD STREET STA. 46+80 RT & STA. 47+30 RT (APPROX.)
SCALE: 1" = 10'

GENERAL NOTES:

1. NO TRAVERSABLE SLOPE ON THE RAMP OR SIDEWALK SHALL EXCEED 12:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL, OR 48:1 PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL. THE CROSS-SLOPE OF THE LANDING AREA CANNOT EXCEED GRADE OF ROADWAY.
2. EXPANSION JOINT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH MDSHA STD. MD-655.01.
3. SURFACE TEXTURE OF RAMPS SHALL BE COURSE BROOMING OR NON-SKID TYPE SURFACE.

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LICENSE NO. 31168

EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND — JASON A. AZAR — 31168 — REGISTERED PROFESSIONAL ENGINEER

1-20-17

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

CROSS REFERENCE

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COVER	1
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TREE PROTECTION DETAILS	29

REVISIONS

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

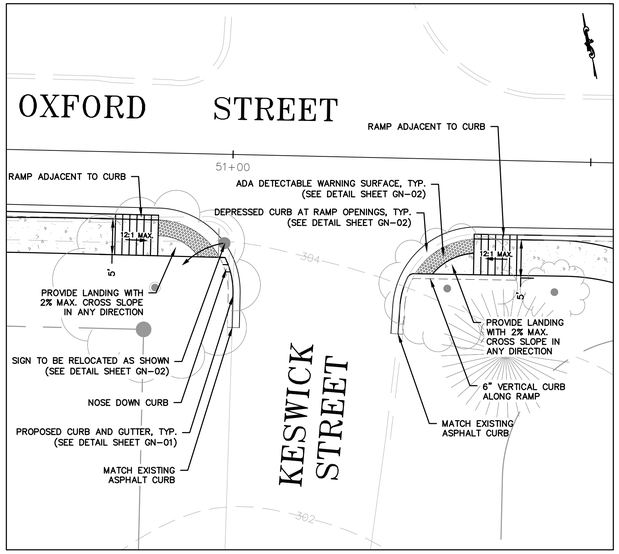
ADA ENLARGEMENTS

SCALE 1" = 10' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

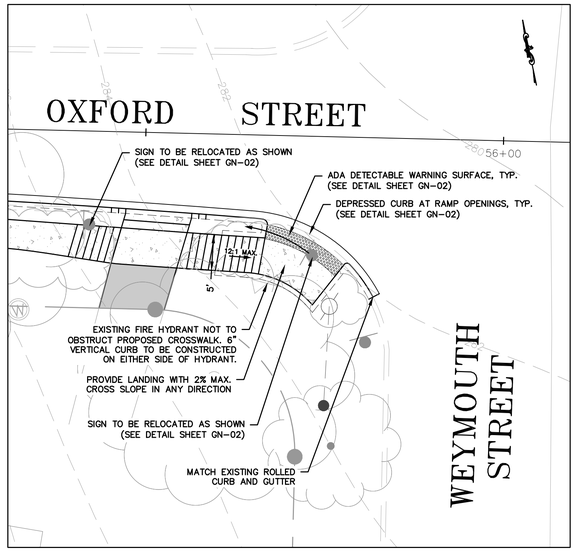
DESIGNED BY ME COUNTY MONTGOMERY
DRAWN BY ME LOGMILE
CHECKED BY JA HORIZONTAL SCALE
F.A.P. NO. TBD VERTICAL SCALE

DRAWING NO. SP-01 OF 2 SHEET NO. 12 OF 29

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 - Safe Routes to School Sidewalks\CAD\dwg\SP01-02 ADA ENLARGEMENTS.dwg



7 ADA CROSSWALK RAMP ENLARGEMENT 7
OXFORD STREET STA. 51+00 RT & STA. 51+25 RT (APPROX.)
SCALE: 1" = 10'



8 ADA CROSSWALK RAMP ENLARGEMENT 8
OXFORD STREET STA. 55+75 RT (APPROX.)
SCALE: 1" = 10'

GENERAL NOTES:

1. NO TRAVERSABLE SLOPE ON THE RAMP OR SIDEWALK SHALL EXCEED 12:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL, OR 48:1 PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL. THE CROSS-SLOPE OF THE LANDING AREA CANNOT EXCEED GRADE OF ROADWAY.
2. EXPANSION JOINT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH MDSHA STD. MD-655.01.
3. SURFACE TEXTURE OF RAMPS SHALL BE COURSE BROOMING OR NON-SKID TYPE SURFACE.

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LICENSE NO. 31168

EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND · JASON A. AZAR · 31168 · REGISTERED PROFESSIONAL ENGINEER

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

CROSS REFERENCE

REVISIONS

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

ADA ENLARGEMENTS

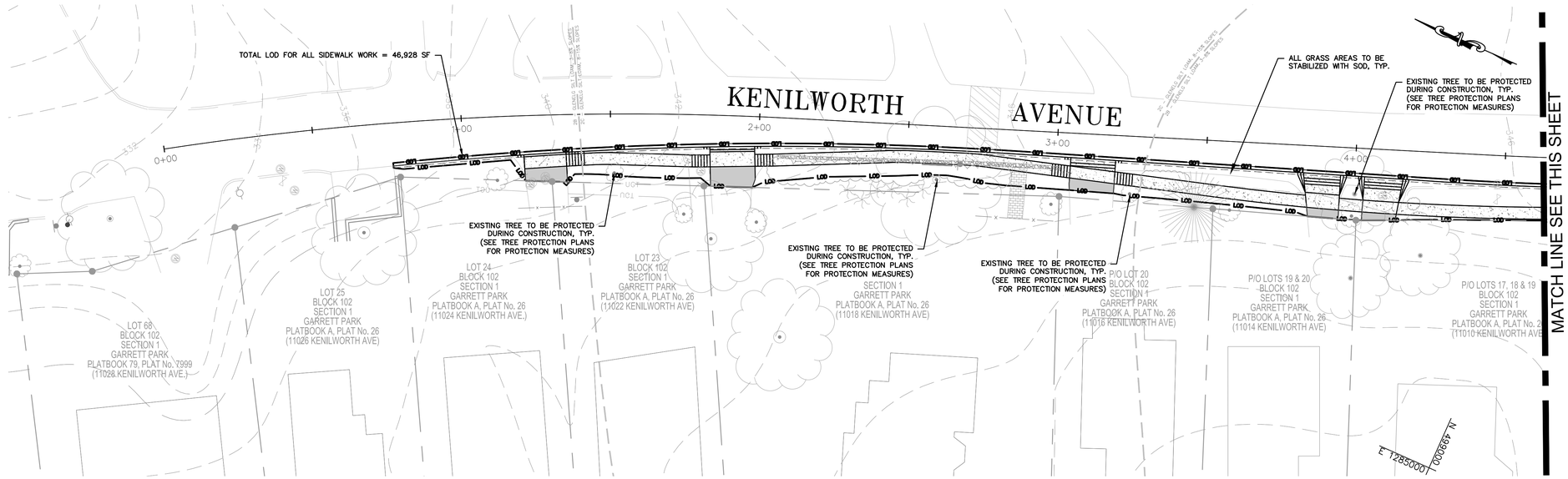
SCALE 1" = 10' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME
DRAWN BY ME
CHECKED BY JA
F.A.P. NO. TBD
COUNTY MONTGOMERY
LOGMILE
HORIZONTAL SCALE
VERTICAL SCALE

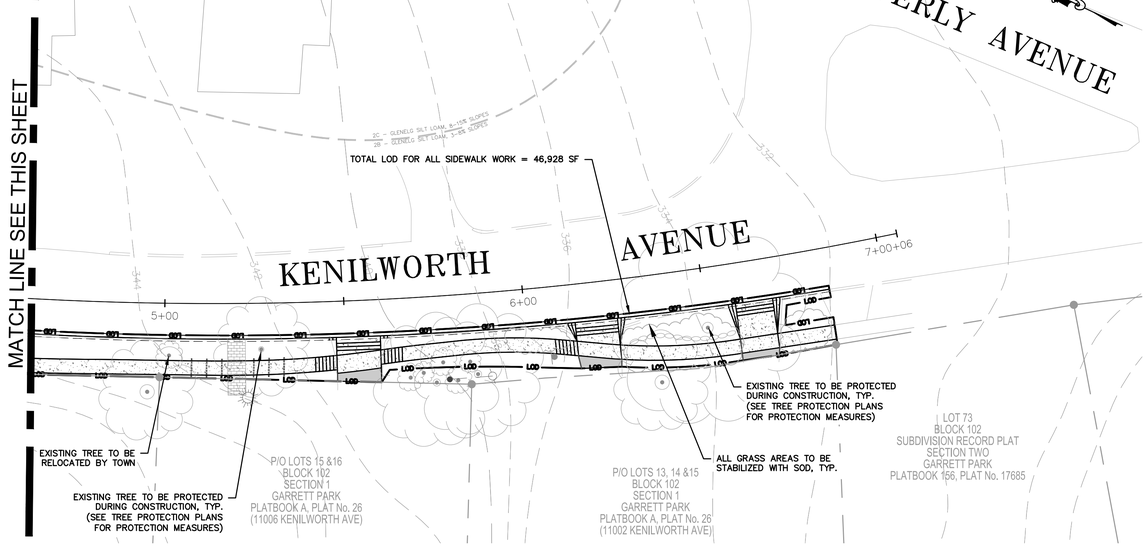
DRAWING NO. SP-02 OF 2
SHEET NO. 13 OF 29

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 - Safe Routes to School Sidewalks\CAD\dwg\SP01-02 ADA ENLARGEMENTS.dwg

DRILL HOLES
DRILL HOLES
DRILL HOLES



EROSION & SEDIMENT CONTROL PLAN
STA. 0+00 – STA. 4+50 (APPROX.)



EROSION & SEDIMENT CONTROL PLAN
STA. 4+50 – STA. 7+05 (APPROX.)

SEQUENCE OF CONSTRUCTION:

1. PRIOR TO CLEARING OF TREES, INSTALLING SEDIMENT CONTROL MEASURES, OR GRADING, A PRECONSTRUCTION MEETING MUST BE CONDUCTED ON-SITE WITH THE MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SEDIMENT CONTROL INSPECTOR (240) 777-0311 (48 HOURS NOTICE), THE OWNERS REPRESENTATIVE, AND THE SITE ENGINEER. IN ORDER FOR THE MEETING TO OCCUR, THE APPLICANT MUST PROVIDE ONE PAPER SET OF APPROVED SEDIMENT CONTROL PLANS TO THE MCDPS SEDIMENT CONTROL INSPECTOR AT THE PRECONSTRUCTION MEETING. IF NO PLANS ARE PROVIDED, THE MEETING SHALL NOT OCCUR AND WILL NEED TO BE RESCHEDULED PRIOR TO COMMENCING ANY WORK.
2. THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED PRIOR TO CLEARING OF TREES, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION, OR OTHER LAND DISTURBING ACTIVITIES.
3. CLEAR AND GRADE FOR INSTALLATION OF SEDIMENT CONTROL DEVICES.
4. INSTALL SEDIMENT CONTROL DEVICES. TRAPS AND BASINS SHALL BE CONSTRUCTED PRIOR TO CONSTRUCTION OF ANY EARTH DIKES THAT CONVEY DRAINAGE TO A TRAP AND/OR BASIN.
5. ONCE THE SEDIMENT CONTROL DEVICES ARE INSTALLED, THE PERMITTEE MUST OBTAIN WRITTEN APPROVAL FROM THE MCDPS INSPECTOR BEFORE PROCEEDING WITH ANY ADDITIONAL CLEARING, GRUBBING, OR GRADING.
6. INSTALL TREE PROTECTION MEASURES.
7. REMOVE OLD SIDEWALK, DRIVEWAY APRONS, AND CURBS IF PRESENT. BEGIN GRADING FOR SIDEWALK AND DRIVEWAY APRONS.
8. INSTALL NEW CURBS, DRIVEWAY APRONS, AND SIDEWALKS.
9. STABILIZE ALL DISTURBED AREAS NOT TO BE PAVED WITH SOD.
10. INSTALL STREAM STABILIZATION MEASURES AS SHOWN ON PLANS.
11. PRIOR TO REMOVAL OF ANY SEDIMENT CONTROL DEVICES, OBTAIN APPROVAL FROM MCDPS INSPECTOR. ALL DISTURBED AREAS MUST BE STABILIZED PRIOR TO REMOVAL OF SEDIMENT CONTROL DEVICES.
12. REMOVE ALL SEDIMENT CONTROL DEVICES.
13. ARRANGE FOR AND OBTAIN ANY REQUIRED FINAL SITE INSPECTIONS AND CERTIFICATIONS.

NOTES:

- ITEMS MAY BE DONE CONCURRENTLY OR OUT OF ORDER WITH WRITTEN PERMISSION FROM THE MCDPS INSPECTOR.
- THIS PROJECT IS TO BE COMPLETED AS A CUT-AND-COVER OPERATION. CONTRACTOR IS ONLY TO DISTURB WHAT CAN BE STABILIZED AT THE END OF EACH WORK DAY. AREAS THAT CANNOT BE STABILIZED OR HAVE THE RISK OF POTENTIAL OFF SITE SEDIMENTATION WILL REQUIRE ADEQUATE SEDIMENT CONTROL SUCH AS SILT FENCE OR SEDIMENT LOGS PUT IN PLACE BY THE END OF EACH WORK DAY. SEDIMENT CONTROL DEVICES MAY BE ADDED, DELETED, OR RELOCATED AS NEEDED BY THE MCDPS INSPECTOR AS SITE GRADING PROGRESSES.
- FOR OUTFALL STABILIZATION SEQUENCE OF CONSTRUCTION, SEE SHEET OS-01.

SEDIMENT CONTROL LEGEND

- CIP — PROPOSED CURB INLET PROTECTION
- AGIP — PROPOSED AT-GRADE INLET PROTECTION
- LOD — PROPOSED LIMITS OF DISTURBANCE
- 2C GLENELG SILT LOAM — SOIL CLASSIFICATION BOUNDARY

DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett, County Executive — Diane R. Schwartz Jones, Director

May 30, 2017

Mr. Jason Azar
Nobis Engineering, Inc.
20410 Century Boulevard, Suite 230
Germantown, MD 20874

Re: **COMBINED STORMWATER MANAGEMENT CONCEPT/SITE DEVELOPMENT STORMWATER MANAGEMENT PLAN** for
Town of Garrett Park Sidewalk
Preliminary Plan #: N/A
SM File #: 282967
Tract Size/Zone: 1.12/ROW
Total Concept Area: 1.12ac
Lots/Block: N/A
Parcel(s): N/A
Watershed: Lower Rock Creek

Dear Mr. Azar:

Based on a review by the Department of Permitting Services Review Staff, the stormwater management concept for the above-mentioned site is **acceptable**. The stormwater management concept proposes to meet required stormwater management goals via the use of drainage outfall improvements due to site constraints that will not allow traditional stormwater management.

The following items will need to be addressed during the detailed sediment control/stormwater management plan stage:

1. A detailed review of the stormwater management computations will occur at the time of detailed plan review.
2. A stormwater management waiver fee will not be required for this public improvement project.

This list may not be all-inclusive and may change based on available information at the time.

This letter must appear on the sediment control/stormwater management plan at its initial submittal. The concept approval is based on all stormwater management structures being located outside of the Public Utility Easement, the Public Improvement Easement, and the Public Right of Way unless specifically approved on the concept plan. Any divergence from the information provided to this office, or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended stormwater management requirements. If there are subsequent additions or modifications to the development, a separate concept request shall be required.

DPS — 255 Rockville Pike, 2nd Floor, Rockville, Maryland 20850 | 240-777-0311
www.montgomerycountymd.gov/permittingservices

Mr. Jason Azar
May 30, 2017
Page 2 of 2

If you have any questions regarding these actions, please feel free to contact Thomas Weadon at 240-777-6309.

Sincerely,

Mark C. Etheridge, Manager
Water Resources Section
Division of Land Development Services

MCE: mw TEW

cc: C. Conlon
SM File # 282967

ESD Acres: N/A
STRUCTURAL Acres: N/A
WAIVED Acres: N/A

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

ESC/SWM SHEET 2 OF 11

SOILS TABLE

SOILS	ERODIBLE	HYDRIC	CONTAINS 15-25% SLOPES	CONTAINS > 25% SLOPES	CAPABILITY SUBCLASS SYMBOL	PRIME AGRICULTURAL SOIL
2B GLENELG SILT LOAM 3 - 8% SLOPES	CLASS 1	NO	NO	NO	2e	ALL AREAS ARE PRIME FARMLAND
2C GLENELG SILT LOAM 8 - 15% SLOPES	CLASS 1	NO	YES	NO	3e	FARMLAND OF STATEWIDE IMPORTANCE
16D BRINKLOW-BLOCKTOWN CHANNERY SILT LOAMS 15 - 25% SLOPES	CLASS 1	NO	YES	YES	6e	NOT PRIME FARMLAND

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LICENSE NO. 31168
EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND — JASON A. AZAR — No. 31168 — PROFESSIONAL ENGINEER — 9-20-17

CROSS REFERENCE

ITEM	SHEET NOs.
COVER	1
GENERAL NOTES AND TYPICAL DETAILS	2 – 3
TYPICAL SECTIONS	4
GEOMETRIC LAYOUT	5 – 6
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REVISIONS

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

EROSION & SEDIMENT CONTROL PLAN

SCALE 1" = 20' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME — COUNTY MONTGOMERY
DRAWN BY ME — LOGMILE
CHECKED BY JA — HORIZONTAL SCALE
F.A.P. NO. TBD — VERTICAL SCALE

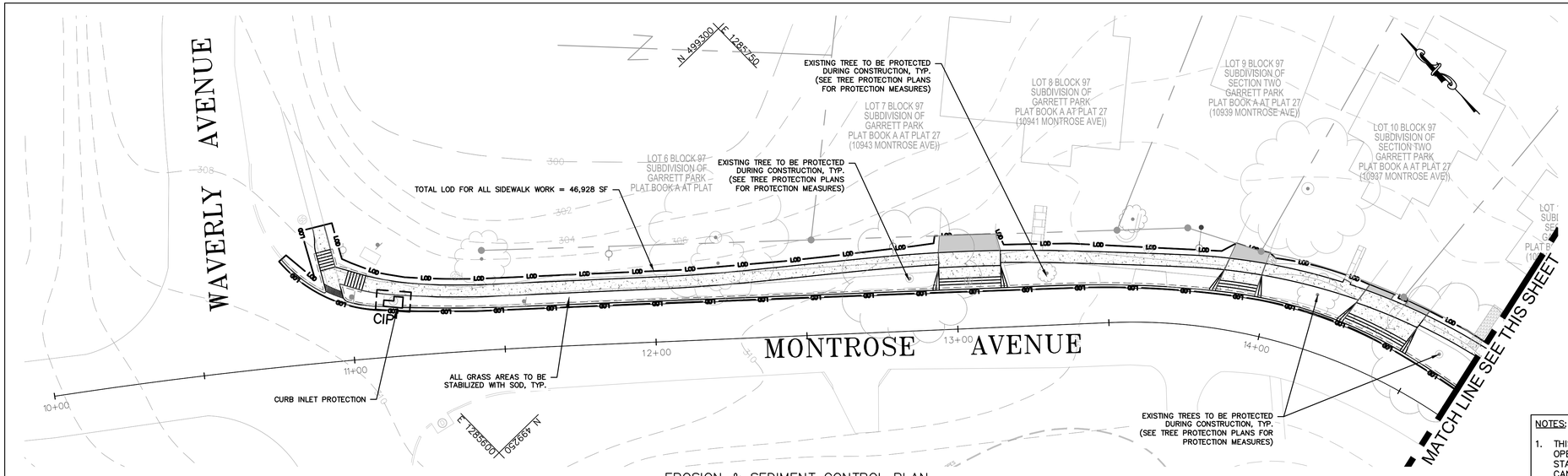
DRAWING NO. SC-01 OF 7 — SHEET NO. 14 OF 29

PLOTTED:3/6/2017 11:39 AM
FILE: J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\SC01-05 SEDIMENT CONTROL PLAN.dwg

DRILL HOLES

DRILL HOLES

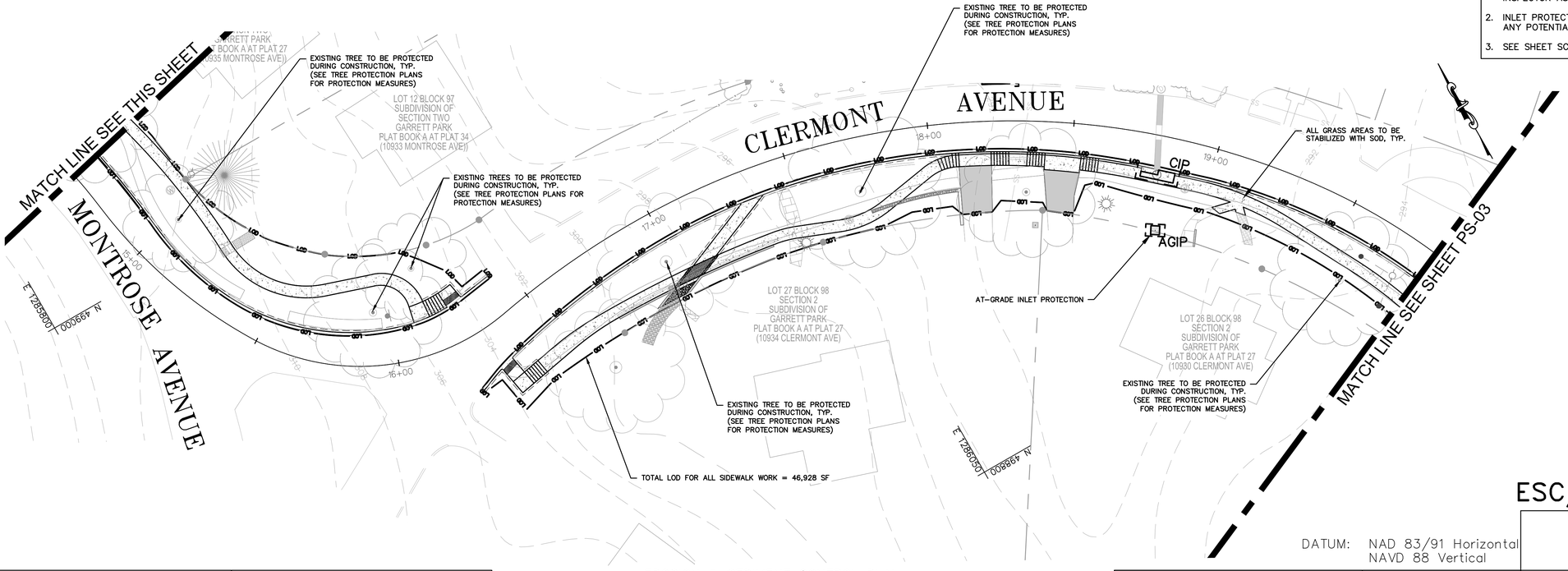
DRILL HOLES



EROSION & SEDIMENT CONTROL PLAN
STA. 10+00 – STA. 15+00 (APPROX.)

NOTES:

1. THIS PROJECT IS TO BE COMPLETED AS A CUT–AND–COVER OPERATION. CONTRACTOR IS ONLY TO DISTURB WHAT CAN BE STABILIZED AT THE END OF EACH WORK DAY. AREAS THAT CANNOT BE STABILIZED OR HAVE THE RISK OF POTENTIAL OFF SITE SEDIMENTATION WILL REQUIRE ADEQUATE SEDIMENT CONTROL SUCH AS SILT FENCE OR SEDIMENT LOGS PUT IN PLACE BY THE END OF EACH WORK DAY. SEDIMENT CONTROL DEVICES MAY BE ADDED, DELETED, OR RELOCATED AS NEEDED BY THE MCDPS INSPECTOR AS SITE GRADING PROGRESSES.
2. INLET PROTECTION MAY ONLY BE INSTALLED IF IT WILL NOT CAUSE ANY POTENTIAL FLOODING OR ROADWAY SAFETY ISSUES
3. SEE SHEET SC–01 FOR SEQUENCE OF CONSTRUCTION



EROSION & SEDIMENT CONTROL PLAN
STA. 15+00 – STA. 19+75 (APPROX.)

GRAPHIC SCALE

20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

ESC/SWM SHEET 3 OF 11

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

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STATE OF MARYLAND · JASON A. AZAR · 31168 · REGISTERED PROFESSIONAL ENGINEER

3-6-17

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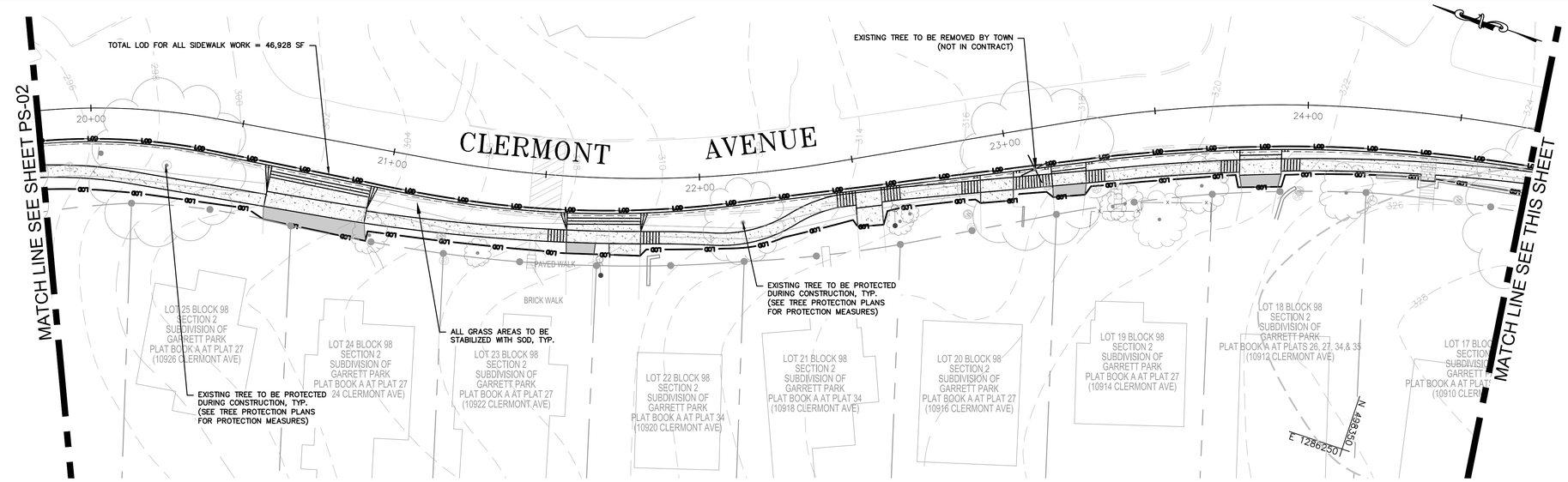
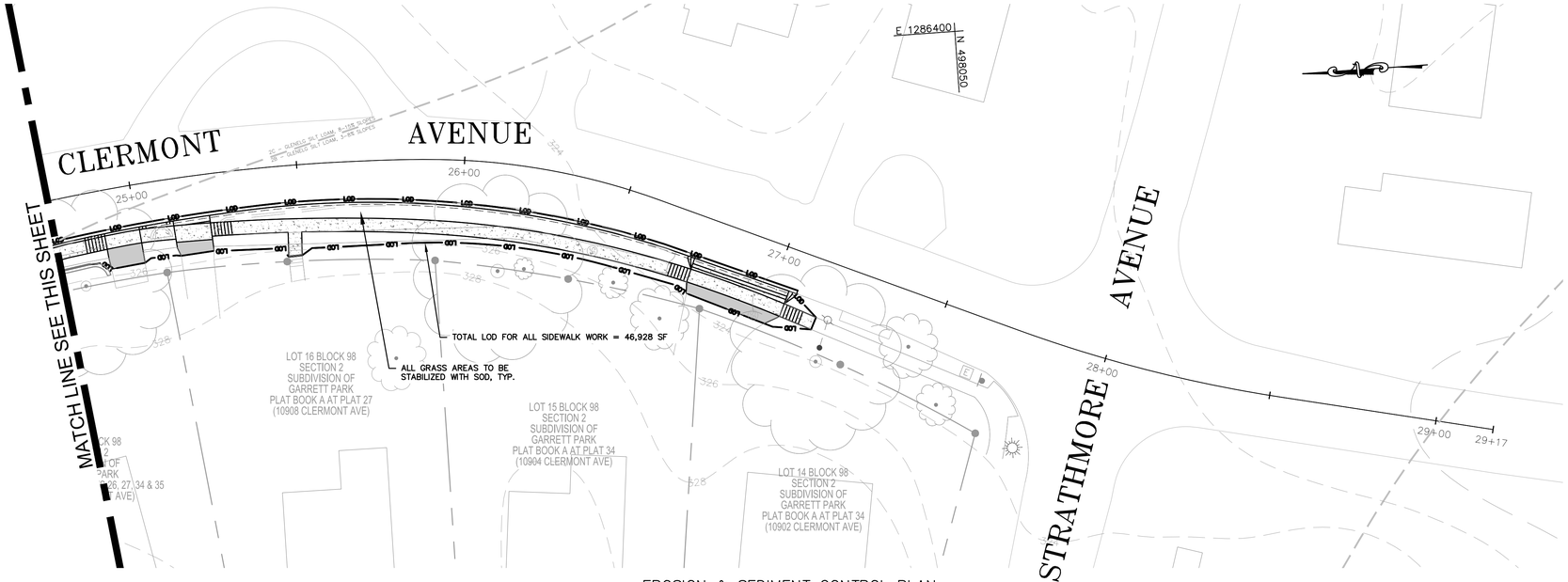
DRAWN BY ME LOGMILE
CHECKED BY JA HORIZONTAL SCALE
F.A.P. NO. TBD VERTICAL SCALE

DRAWING NO. SC–02 OF 7 SHEET NO. 15 OF 29

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\SC01–05 SEDIMENT CONTROL PLAN.dwg



EROSION & SEDIMENT CONTROL PLAN
STA. 19+75 – STA. 24+75 (APPROX.)



EROSION & SEDIMENT CONTROL PLAN
STA. 24+75 – STA. 29+17 (APPROX.)

NOTES:

1. THIS PROJECT IS TO BE COMPLETED AS A CUT–AND–COVER OPERATION. CONTRACTOR IS ONLY TO DISTURB WHAT CAN BE STABILIZED AT THE END OF EACH WORK DAY. AREAS THAT CANNOT BE STABILIZED OR HAVE THE RISK OF POTENTIAL OFF SITE SEDIMENTATION WILL REQUIRE ADEQUATE SEDIMENT CONTROL SUCH AS SILT FENCE OR SEDIMENT LOGS PUT IN PLACE BY THE END OF EACH WORK DAY. SEDIMENT CONTROL DEVICES MAY BE ADDED, DELETED, OR RELOCATED AS NEEDED BY THE MCDPS INSPECTOR AS SITE GRADING PROGRESSES.
2. SEE SHEET SC–01 FOR SEQUENCE OF CONSTRUCTION

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

ESC/SWM SHEET 4 OF 11

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

EROSION & SEDIMENT CONTROL PLAN

SCALE 1" = 20' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME
DRAWN BY ME
CHECKED BY JA
F.A.P. NO. TBD
COUNTY MONTGOMERY
LOGMILE
HORIZONTAL SCALE
VERTICAL SCALE
DRAWING NO. SC–03 OF 7
SHEET NO. 16 OF 29

CROSS REFERENCE

ITEM	SHEET NOs.
COVER	1
GENERAL NOTES AND TYPICAL DETAILS	2 – 3
TYPICAL SECTIONS	4
GEOMETRIC LAYOUT	5 – 6
SIDEWALK PLANS	7 – 11
ADA ENLARGEMENTS	12 – 13
EROSION & SEDIMENT CONTROL PLANS	14 – 18
EROSION & SEDIMENT CONTROL DETAILS	19
EROSION & SEDIMENT CONTROL NOTES	20
OUTFALL STABILIZATION PLAN AND DETAILS	21 – 23
TREE PROTECTION PLANS	24 – 28
TREE PROTECTION DETAILS	29

REVISIONS

CLARK | AZAR & ASSOCIATES
20410 Century Blvd, Suite 230
Germantown, MD. 20874
T(301) 528-2010
www.clarkazar.com
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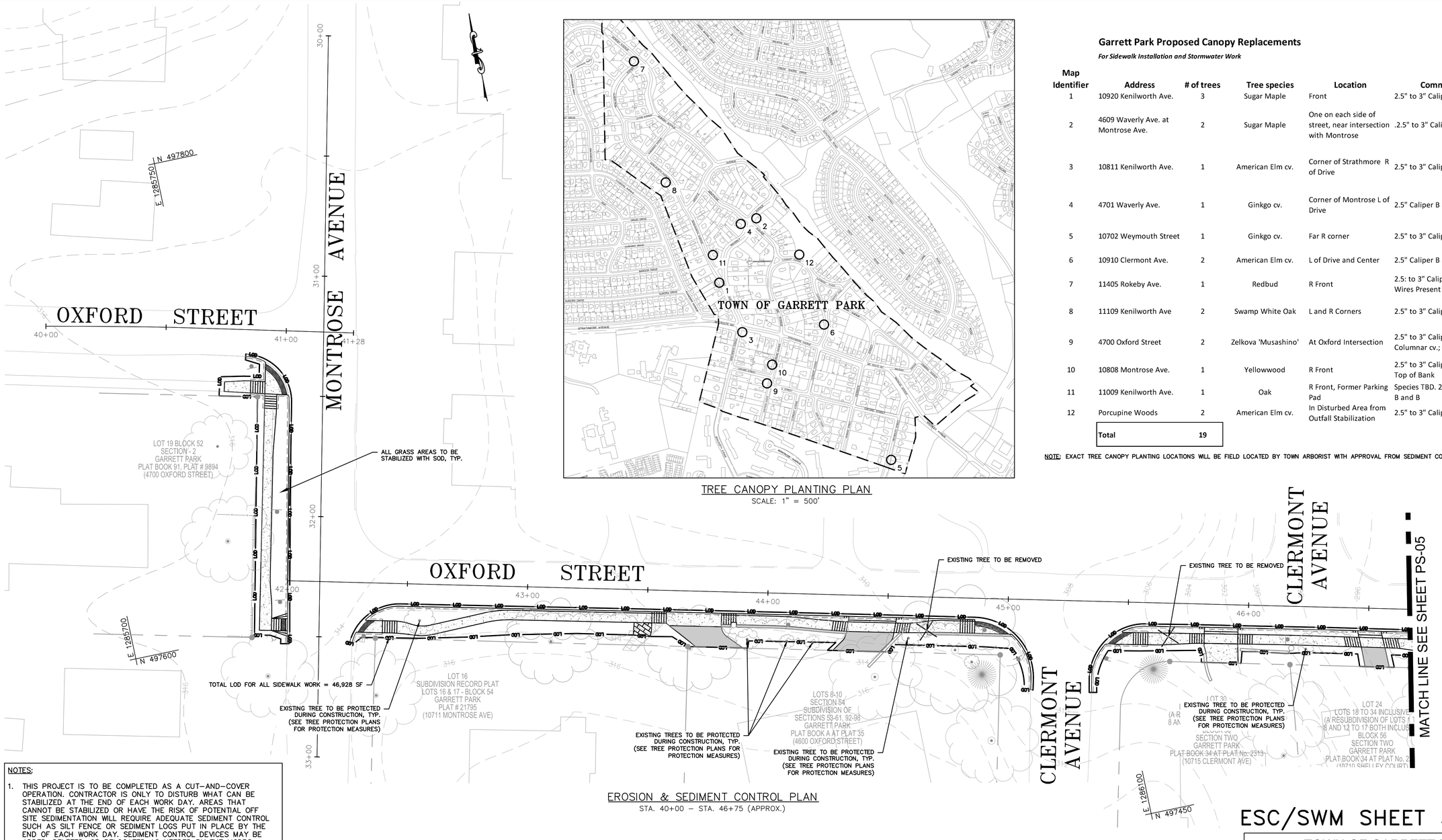
PROFESSIONAL CERTIFICATION:
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 31168
EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND · JASON A. AZAR · 31168 · REGISTERED PROFESSIONAL ENGINEER
9-Dec-17

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\SC01–05 SEDIMENT CONTROL PLAN.dwg



EROSION & SEDIMENT CONTROL PLAN

STA. 40+00 – STA. 46+75 (APPROX.)

TREE CANOPY PLANTING PLAN

SCALE: 1" = 500'

Garrett Park Proposed Canopy Replacements

For Sidewalk Installation and Stormwater Work

Map Identifier	Address	# of trees	Tree species	Location	Comments
1	10920 Kenilworth Ave.	3	Sugar Maple	Front	2.5" to 3" Caliper B and B
2	4609 Waverly Ave. at Montrose Ave.	2	Sugar Maple	One on each side of street, near intersection with Montrose	.2.5" to 3" Caliper B and B
3	10811 Kenilworth Ave.	1	American Elm cv.	Corner of Strathmore R of Drive	2.5" to 3" Caliper B and B
4	4701 Waverly Ave.	1	Ginkgo cv.	Corner of Montrose L of Drive	2.5" Caliper B and B
5	10702 Weymouth Street	1	Ginkgo cv.	Far R corner	2.5" to 3" Caliper B and B
6	10910 Clermont Ave.	2	American Elm cv.	L of Drive and Center	2.5" Caliper B and B
7	11405 Rokeby Ave.	1	Redbud	R Front	2.5: to 3" Caliper B and B; Wires Present
8	11109 Kenilworth Ave	2	Swamp White Oak	L and R Corners	2.5" to 3" Caliper B and B
9	4700 Oxford Street	2	Zelkova 'Musashino'	At Oxford Intersection	2.5" to 3" Caliper B and B Columnar cv.; Wires Present
10	10808 Montrose Ave.	1	Yellowwood	R Front	2.5" to 3" Caliper B and B Top of Bank
11	11009 Kenilworth Ave.	1	Oak	R Front, Former Parking Pad	Species TBD. 2.5" to 3" Caliper B and B
12	Porcupine Woods	2	American Elm cv.	In Disturbed Area from Outfall Stabilization	2.5" to 3" Caliper B and B
	Total	**19**			

NOTE: EXACT TREE CANOPY PLANTING LOCATIONS WILL BE FIELD LOCATED BY TOWN ARBORIST WITH APPROVAL FROM SEDIMENT CONTROL INSPECTOR.

NOTES:

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LICENSE NO. 31168

EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND · JASON AZAR · No. 31168 · REGISTERED PROFESSIONAL ENGINEER

9-20-17

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

CROSS REFERENCE	
ITEM	SHEET NOs.
COVER	1
GENERAL NOTES AND TYPICAL DETAILS	2 – 3
TYPICAL SECTIONS	4
GEOMETRIC LAYOUT	5 – 6
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TREE PROTECTION DETAILS	29

REVISIONS

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

EROSION & SEDIMENT CONTROL PLAN

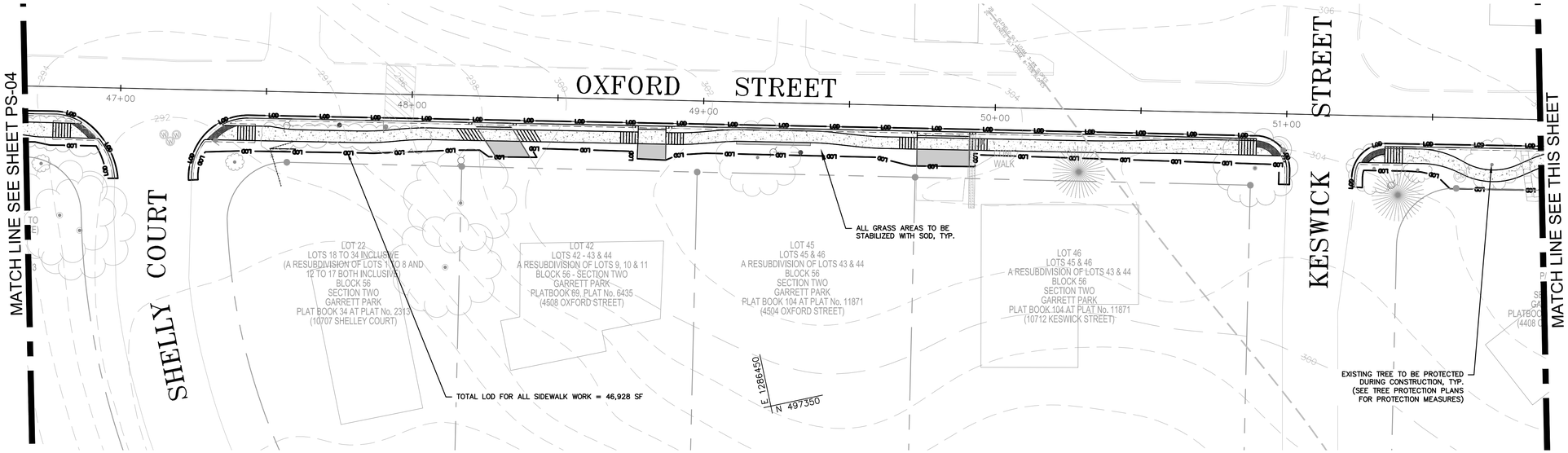
SCALE 1" = 20' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME COUNTY MONTGOMERY
DRAWN BY ME LOGMILE
CHECKED BY JA HORIZONTAL SCALE
F.A.P. NO. TBD VERTICAL SCALE

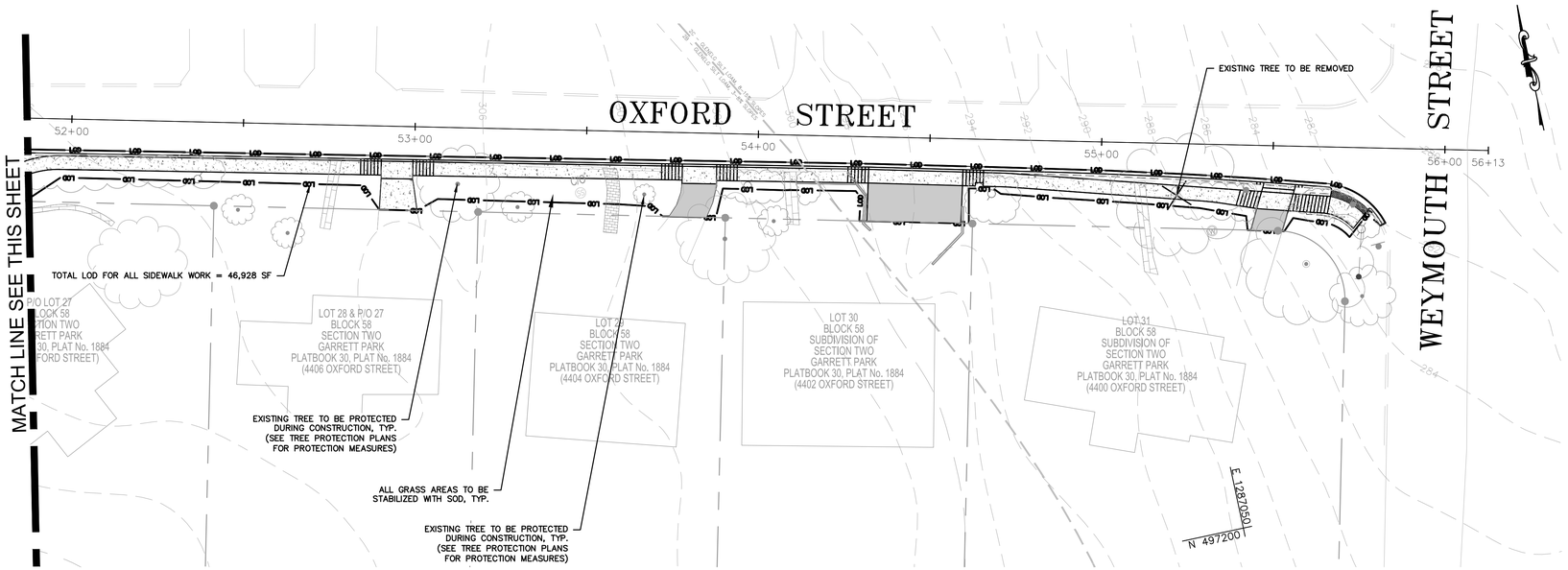
DRAWING NO. SC–04 OF 7 SHEET NO. 17 OF 29

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\SC01–05 SEDIMENT CONTROL PLAN.dwg

ESC/SWM SHEET 5 OF 11



EROSION & SEDIMENT CONTROL PLAN
STA. 46+75 – STA. 52+00 (APPROX.)



EROSION & SEDIMENT CONTROL PLAN
STA. 52+00 – STA. 56+13 (APPROX.)

NOTES:

1. THIS PROJECT IS TO BE COMPLETED AS A CUT–AND–COVER OPERATION. CONTRACTOR IS ONLY TO DISTURB WHAT CAN BE STABILIZED AT THE END OF EACH WORK DAY. AREAS THAT CANNOT BE STABILIZED OR HAVE THE RISK OF POTENTIAL OFF SITE SEDIMENTATION WILL REQUIRE ADEQUATE SEDIMENT CONTROL SUCH AS SILT FENCE OR SEDIMENT LOGS PUT IN PLACE BY THE END OF EACH WORK DAY. SEDIMENT CONTROL DEVICES MAY BE ADDED, DELETED, OR RELOCATED AS NEEDED BY THE MCDPS INSPECTOR AS SITE GRADING PROGRESSES.
2. SEE SHEET SC–01 FOR SEQUENCE OF CONSTRUCTION

ESC/SWM SHEET 6 OF 11

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

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LICENSE NO. 31168

EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND · JASON AZAR · No. 31168 · REGISTERED PROFESSIONAL ENGINEER

9/20/17

CROSS REFERENCE

REVISIONS

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

EROSION & SEDIMENT CONTROL PLAN

SCALE 1" = 20' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME COUNTY MONTGOMERY
DRAWN BY ME LOGMILE
CHECKED BY JA HORIZONTAL SCALE
F.A.P. NO. TBD VERTICAL SCALE

DRAWING NO. SC–05 OF 7 SHEET NO. 18 OF 29

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\SC01–05 SEDIMENT CONTROL PLAN.dwg

DRILL HOLES
DRILL HOLES
DRILL HOLES

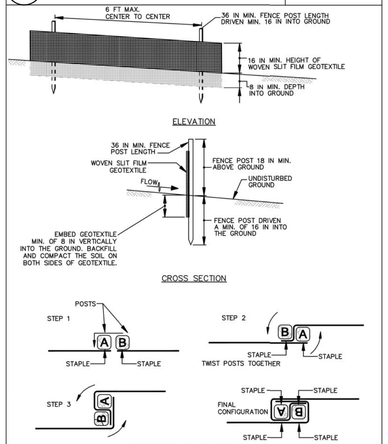
DRILL HOLES

DRILL HOLES

DRILL HOLES

1 DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

1 OF 2

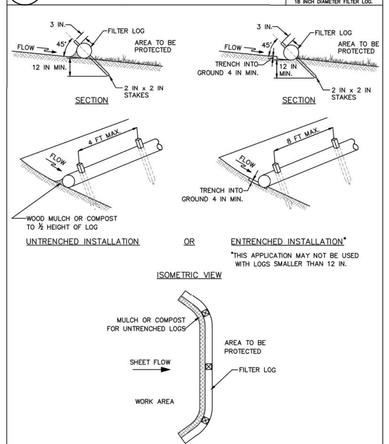
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

2 DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18

DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.



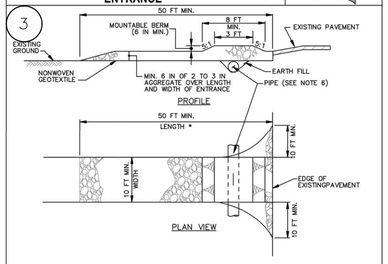
1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

3 DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

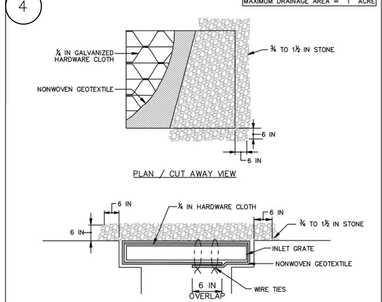
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

4 DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP

MAXIMUM DRAINAGE AREA = 1 ACRE



CONSTRUCTION SPECIFICATIONS

1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
3. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
4. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1⅜ X 1⅜ ± 1/8 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18

DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.

CONSTRUCTION SPECIFICATIONS

1. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
2. FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
3. INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
4. FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
5. STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
6. USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
7. WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
8. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF ½ THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLODGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

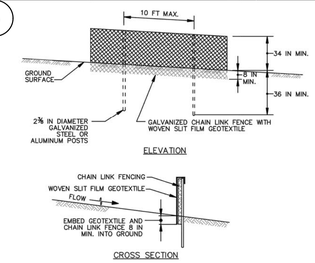
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

5 DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF



CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HOG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

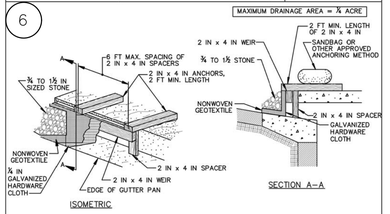
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

6 DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP

MAXIMUM DRAINAGE AREA = ¾ ACRE



CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH x 4 INCH LUMBER
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

NOTE: CURB INLET PROTECTION MAY ONLY BE INSTALLED IF IT WILL NOT CAUSE ANY POTENTIAL FLOODING OR ROADWAY ISSUES.

ESC/SWM SHEET 7 OF 11

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PROFESSIONAL CERTIFICATION:
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 31168

EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND — JASON A. AZAR — 31168 — REGISTERED PROFESSIONAL ENGINEER — 9/20/17

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

CROSS REFERENCE

REVISIONS

EROSION & SEDIMENT CONTROL DETAILS

SCALE N.T.S. ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME — COUNTY MONTGOMERY
DRAWN BY ME — LOGMILE
CHECKED BY JA — HORIZONTAL SCALE
F.A.P. NO. TBD — VERTICAL SCALE

DRAWING NO. SC-06 OF 7 — SHEET NO. 19 OF 29

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\SC06 SEDIMENT CONTROL DETAILS.dwg

STANDARD EROSION AND SEDIMENT CONTROL NOTES
5/21/2013

1. THE PERMITTEE SHALL NOTIFY THE DEPARTMENT OF PERMITTING SERVICES (DPS) FORTY-EIGHT (48) HOURS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY THE DEPARTMENT, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN THEM OR THEIR REPRESENTATIVE, THEIR ENGINEER AND AN AUTHORIZED REPRESENTATIVE OF THE DEPARTMENT.

2. THE PERMITTEE MUST OBTAIN INSPECTION AND APPROVAL BY DPS AT THE FOLLOWING POINTS:
A. AT THE REQUIRED PRE-CONSTRUCTION MEETING.
B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES AND PRIOR TO ANY OTHER LAND DISTURBING ACTIVITY
C. DURING THE INSTALLATION OF A SEDIMENT BASIN OR STORMWATER MANAGEMENT STRUCTURE AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION IS MANDATORY.
D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
E. PRIOR TO FINAL ACCEPTANCE.

3. THE PERMITTEE SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE, SHALL HAVE THEM INSPECTED AND APPROVED BY THE DEPARTMENT PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES, SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES, AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM THE DEPARTMENT.

4. THE PERMITTEE SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVERSED PUBLIC THOROUGHFARE(S). ALL MATERIALS DEPOSITED ONTO PUBLIC THOROUGHFARE(S) SHALL BE REMOVED IMMEDIATELY.

5. THE PERMITTEE SHALL INSPECT PERIODICALLY AND MAINTAIN CONTINUOUSLY IN EFFECTIVE OPERATING CONDITION, ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE DEPARTMENT. THE PERMITTEE IS RESPONSIBLE FOR IMMEDIATELY REPAIRING OR REPLACING ANY SEDIMENT CONTROL MEASURES WHICH HAVE BEEN DAMAGED OR REMOVED BY THE PERMITTEE OR ANY OTHER PERSON.

6. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
A) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
B) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED AND STABILIZED IMMEDIATELY. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.

7. THE PERMITTEE SHALL APPLY SOD, SEED, AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN SEVEN (7) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED ON THAT AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. ACTIVE CONSTRUCTION AREAS SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS, AND AREAS WITHIN FIFTY (50) FEET OF A BUILDING UNDER CONSTRUCTION MAY BE EXEMPT FROM THIS REQUIREMENT, PROVIDED THAT EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED AND MAINTAINED TO PROTECT THOSE AREAS.

8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE PERMITTEE SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS WITH REQUIRED SOIL AMENDMENTS AND TOPSOIL, USING SOD OR AN APPROVED PERMANENT SEED MIXTURE AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHEN THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, AN APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE COMPLETED PRIOR TO THE FOLLOWING APRIL 15.

9. THE SITE PERMIT, WORK, MATERIALS, APPROVED SC/SM PLANS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MONTGOMERY COUNTY.

10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO LOWER THE WATER DOWN SLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. MECHANICAL DEVICES MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.

11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITHIN 3 CALENDAR DAYS OF ESTABLISHMENT WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING OR BY OTHER APPROVED STABILIZATION MEASURES.

12. SEDIMENT CONTROL DEVICES SHALL BE REMOVED, WITH PERMISSION OF THE DEPARTMENT, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.

13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS OR ON RESIDENTIAL LOTS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NONMAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION

14. THE PERMITTEE SHALL INSTALL A SPLASHBLOCK AT THE BOTTOM OF EACH DOWNSPOUT UNLESS THE DOWNSPOUT IS CONNECTED BY A DRAIN LINE TO AN ACCEPTABLE OUTLET.

15. FOR FINISHED GRADING, THE PERMITTEE SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO PREVENT WATER FROM STANDING ON THE SURFACE OF LAWNS MORE THAN TWENTY-FOUR (24) HOURS AFTER THE END OF A RAINFALL, EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS, WHICH MAY DRAIN AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL.

16. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A BUILDING WHICH IS EXISTING OR UNDER CONSTRUCTION. NO BUILDING MAY BE CONSTRUCTED WITHIN 20 FEET OF A SEDIMENT TRAP OR BASIN.

17. ALL INLETS IN NON-SUMP AREAS SHALL HAVE ASPHALT BERMS INSTALLED AT THE TIME OF BASE PAVING ESTABLISHMENT.

18. THE SEDIMENT CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SEDIMENT CONTROL MEASURES, AS DEEMED NECESSARY.

19. ALL TRAP ELEVATIONS ARE RELATIVE TO THE OUTLET ELEVATION, WHICH MUST BE ON EXISTING UNDISTURBED GROUND.

20. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

21. SEDIMENT TRAP(S)/BASIN(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO THE POINT OF ONE-HALF (1/2) THE WET STORAGE DEPTH OF THE TRAP/BASIN (1/4 THE WET STORAGE DEPTH FOR ST-III) OR WHEN REQUIRED BY THE SEDIMENT CONTROL INSPECTOR.

22. SEDIMENT REMOVED FROM TRAPS/BASINS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN.

23. ALL SEDIMENT BASINS AND TRAPS MUST BE SURROUNDED WITH A WELDED WIRE SAFETY FENCE. THE FENCE MUST BE AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THE TWO INCHES IN WIDTH AND FOUR INCHES IN HEIGHT, WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.

24. NO EXCAVATION IN THE AREAS OF EXISTING UTILITIES IS PERMITTED UNLESS THEIR LOCATION HAS BEEN DETERMINED. CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK.

25. OFF-SITE SPOIL OR BORROW AREAS MUST HAVE PRIOR APPROVAL BY DPS.

26. SEDIMENT TRAP/BASIN DEWATERING FOR CLEANOUT OR REPAIR MAY ONLY BE DONE WITH THE DPS INSPECTOR'S PERMISSION. THE INSPECTOR MUST APPROVE THE DEWATERING METHOD FOR EACH APPLICATION. THE FOLLOWING METHODS MAY BE CONSIDERED:
A. PUMP DISCHARGE MAY BE DIRECTED TO ANOTHER ON-SITE SEDIMENT TRAP OR BASIN, PROVIDED IT IS OF SUFFICIENT VOLUME AND THE PUMP INTAKE IS FLOATED TO PREVENT AGITATION OR SUCTION OF DEPOSITED SEDIMENTS; OR
B. THE PUMP INTAKE MAY UTILIZE A REMOVABLE PUMPING STATION AND MUST DISCHARGE INTO AN UNDISTURBED AREA THROUGH A NON-EROSIVE OUTLET; OR
C. THE PUMP INTAKE MAY BE FLOATED AND DISCHARGE INTO A DIRT BAG (12 OZ. NON-WOVEN FABRIC), OR APPROVED EQUIVALENT, LOCATED IN AN UNDISTURBED BUFFER AREA.

REMEMBER: DEWATERING OPERATION AND METHOD MUST HAVE PRIOR APPROVAL BY THE DPS INSPECTOR.

27. THE PERMITTEE MUST NOTIFY THE DEPARTMENT OF ALL UTILITY CONSTRUCTION ACTIVITIES WITHIN THE PERMITTED LIMITS OF DISTURBANCE PRIOR TO THE COMMENCEMENT OF THOSE ACTIVITIES.

28. TOPSOIL MUST BE APPLIED TO ALL PERVIOUS AREAS WITHIN THE LIMITS OF DISTURBANCE PRIOR TO PERMANENT STABILIZATION IN ACCORDANCE WITH MDE "STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS".

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION

A. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.

C. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

2. PERMANENT STABILIZATION

A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL
CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

I. SOIL PH BETWEEN 6.0 AND 7.0.

II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).

III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.

IV. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.

V. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

B. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.

C. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.

D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

E. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B. TOPSOILING

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.

B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.

5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:

A. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1½ INCHES IN DIAMETER.

B. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

C. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

6. TOPSOIL APPLICATION

A. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.

B. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

C. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.

2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

SEEDING AND MULCHING

A. SEEDING

1. SPECIFICATIONS

A. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.

B. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.

C. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.

D. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

2. APPLICATION

A. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.

II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.

B. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

I. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.

II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

C. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).

I. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P2O5 (PHOSPHOROUS), 200 POUNDS PER ACRE; K2O (POTASSIUM), 200 POUNDS PER ACRE.

II. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.

III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.

IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING

1. MULCH MATERIALS (IN ORDER OF PREFERENCE)

A. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.

B. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

I. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.

II. WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.

III. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.

IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.

V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

2. APPLICATION

A. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.

B. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE
APPLICATION RATE TO 2.5 TONS PER ACRE.

C. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

3. ANCHORING

A. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:

I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.

II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.

IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

PERMANENT STABILIZATION

A. SEED MIXTURES

1. GENERAL USE

A. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

B. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.

C. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.

D. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 ½ POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY .

2. TURFGRASS MIXTURES

A. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.

B. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

I. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

II. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

III. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.

IV. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1½ TO 3 POUNDS PER 1000 SQUARE FEET.

NOTES: SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"

CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE

C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES ARE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)

D. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1½ INCHES IN DIAMETER. THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.

E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (½ TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

1. GENERAL SPECIFICATIONS

A. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.

B. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF ¾INCH, PLUS OR MINUS ¼ INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.

C. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.

D. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.

E. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

2. SOD INSTALLATION

A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.

B. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.

C. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.

D. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.

3. SOD MAINTENANCE

A. IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.

B. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.

C. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN ⅓ OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

INCREMENTAL STABILIZATION

A. INCREMENTAL STABILIZATION - CUT SLOPES

1. EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES.

2. FOR CONSTRUCTION SEQUENCE REFER TO SHEET C-330.

NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

B. INCREMENTAL STABILIZATION - FILL SLOPES

1. CONSTRUCT AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL SLOPES AS THE WORK PROGRESSES.

2. STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.

3. AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.

4. FOR CONSTRUCTION SEQUENCE REFER TO SHEET C-330.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

TEMPORARY SEEDING TABLE B.1

SEED MIXTURE (HARDINESS ZONE 6b) (FROM TABLE B.1)					FERTILIZER RATE (10-10-10)	LIME RATE
NO.	SPECIES	APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS		
	BARLEY	96	3/1-5/15 8/1-10/15	1"	436 lb/ac (10 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)
	CEREAL RYE	112	3/1-5/15 8/1-11/15	1"		
	WHEAT	120	3/1-5/15 8/1-10/15	1"		
	FOXTAIL MILLET	30	5/16-7/31	1/2"		

APPLIES TO EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

STANDARD TREE CANOPY NOTES

ANY SHADE TREE PLANTED TO COMPLY WITH CHAPTER 55 OF THE COUNTY CODE MUST CONFORM TO THE FOLLOWING:
1. EACH SHADE TREE MUST MEET THE REQUIREMENTS FOR PLANT MATERIAL IN ANSI Z60.1;

2. EACH SHADE TREE MUST BE A MINIMUM OF 2" CALIPER;

3. INSTALLATION OF EACH SHADE TREE MUST MEET ALL REQUIREMENTS OF ANSI A300;

4. AT THE TIME OF PLANTING:
   a. TREE GUARDS TO PROTECT TREES FROM DEER RUBBING, MOWERS, WEED EATERS, OTHER EQUIPMENT AND LARGE RODENTS MUST BE INSTALLED ON ALL SHADE TREES;
   b. MULCH MUST BE APPLIED;
   c. SUFFICIENT WATER MUST BE APPLIED TO AID IN PROPER PLANTING.

5. SHADE TREES MUST BE INSTALLED BETWEEN OCTOBER 15TH AND MAY 15TH AS LONG AS THE GROUND IS NOT FROZEN, SATURATED, OR COVERED WITH SNOW SUCH THAT A SUITABLE HOLE CANNOT BE DUG;

6. SHADE TREES MUST NOT BE INSTALLED BETWEEN MAY 16TH AND OCTOBER 14TH OF EACH YEAR. IF INSTALLATION CANNOT OCCUR BETWEEN OCTOBER 15TH AND MAY 15TH FOR ANY REASON, OR IF PROPOSED TREES ARE NOT PLANTED FOR ANY OTHER REASON, THE PERMITTEE MUST PAY THE REQUIRED FEE IN LIEU.

7. IF SHADE TREES ARE INSTALLED PRIOR TO FINAL STABILIZATION OF THE LAND DISTURBING ACTIVITY THEN NO ADDITIONAL DISTURBANCE MUST OCCUR WITHIN FIVE FEET OF THE STEM OF THE TREE. PROTECTIVE FENCING MUST BE INSTALLED AT THE EDGE OF THIS AREA AT THE SAME TIME THE TREE IS INSTALLED AND MUST REMAIN IN PLACE UNTIL FINAL STABILIZATION OCCURS.

8. THE LOCATION OF GROWING ZONES AND PLANTING AREAS MUST BE CLEARLY MARKED IN THE FIELD PRIOR TO INSTALLATION OF ANY SHADE TREE.

9. A COPY OF THE APPROVED SEDIMENT CONTROL PLAN SHOWING ALL APPROVED GROWING ZONES AND PLANTING AREAS MUST BE AVAILABLE ON THE SITE AT ALL TIMES.

10. AT LEAST ONE INSPECTION MUST OCCUR AFTER ALL CONSTRUCTION ACTIVITIES ARE COMPLETED TO DETERMINE THE LEVEL OF COMPLIANCE WITH SHADE TREE PLANTING REQUIREMENTS.

ESC/SWM SHEET 8 OF 11

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

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Germantown, MD. 20874
T(301) 528-2010
www.clarkazar.com
A Woman Owned Small Business

PROFESSIONAL CERTIFICATION:
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 31168

EXPIRATION DATE: 1/12/2019

STATE OF MARYLAND · JASON AZAR · No. 31168 · REGISTERED · PROFESSIONAL ENGINEER

9-20-17

CROSS REFERENCE

ITEM	SHEET NOs.
COVER	1
GENERAL NOTES AND TYPICAL DETAILS	2 - 3
TYPICAL SECTIONS	4
GEOMETRIC LAYOUT	5 - 6
SIDEWALK PLANS	7 - 11
ADA ENLARGEMENTS	12 - 13
EROSION & SEDIMENT CONTROL PLANS	14 - 18
EROSION & SEDIMENT CONTROL DETAILS	19
EROSION & SEDIMENT CONTROL NOTES	20
OUTFALL STABILIZATION PLAN AND DETAILS	21 - 23
TREE PROTECTION PLANS	24 - 28
TREE PROTECTION DETAILS	29

REVISIONS

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

EROSION & SEDIMENT CONTROL NOTES

SCALE N.T.S. ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME
DRAWN BY ME
CHECKED BY JA
F.A.P. NO. TBD

COUNTY MONTGOMERY
LOGMILE
HORIZONTAL SCALE
VERTICAL SCALE

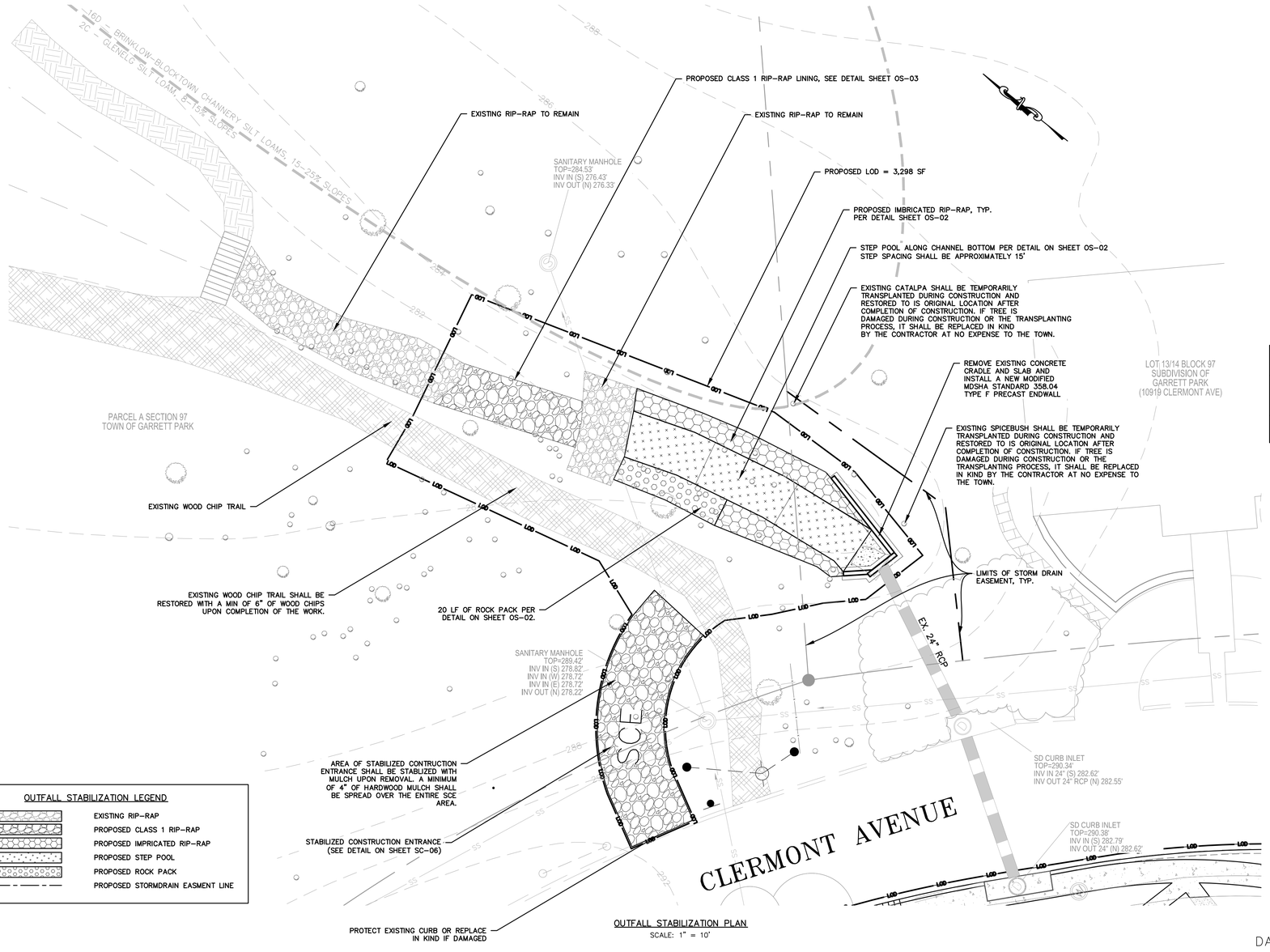
DRAWING NO. SC-07 OF 7

PLOTTED: 3/6/2017 11:39 AM
FILE: J:\91140.04 - Safe Routes to School Sidewalks\CAD\dwg\SC07 SEDIMENT CONTROL NOTES.dwg

DRILL HOLES

DRILL HOLES

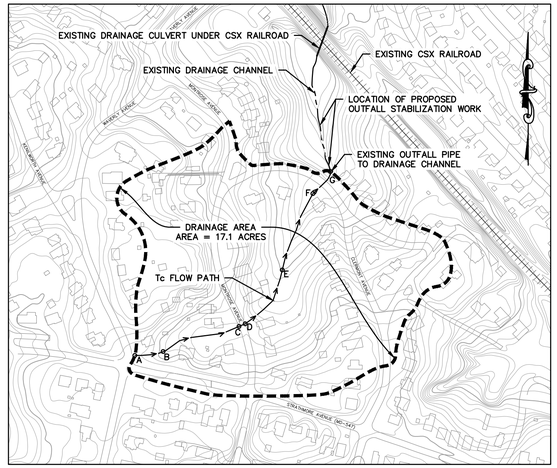
DRILL HOLES



OUTFALL STABILIZATION PLAN
SCALE: 1" = 10'

OUTFALL STABILIZATION LEGEND

- EXISTING RIP-RAP
- PROPOSED CLASS 1 RIP-RAP
- PROPOSED IMPRICATED RIP-RAP
- PROPOSED STEP POOL
- PROPOSED ROCK PACK
- PROPOSED STORMDRAIN EASMENT LINE



OUTFALL DRAINAGE AREA
SCALE: 1" = 250'

PRE-DEVELOPMENT FLOWRATE CALCULATIONS

STUDY POINT	TOTAL AREA (ACRES)	WEIGHTED CURVE NUMBER	Tc (MIN)	Q_{10} (CFS)
OUTFALL	17.1	75	0.171	53.38

*⅛ ACRE DEVELOPED RESIDENTIAL LOTS USED TO MODEL EXISTING DRAINAGE AREA FLOW WITHIN TR-55.

TIME OF CONCENTRATION

PATH	FLOW	LENGTH (FT)
A-B	SHEETFLOW	100
B-C	SHALLOW CONCENTRATED	284
C-D	SHALLOW CONCENTRATED (PAVED)	23
D-E	SHALLOW CONCENTRATED	239
E-F	EARTH CHANNEL FLOW	289
F-G	PIPE FLOW	101

GRAPHIC SCALE

10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

ESC/SWM SHEET 9 OF 11

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

OUTFALL STABILIZATION PLAN

SCALE 1" = 10' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME COUNTY MONTGOMERY
DRAWN BY ME LOGMILE
CHECKED BY JA HORIZONTAL SCALE
F.A.P. NO. TBD VERTICAL SCALE

DRAWING NO. OS-01 OF 3 SHEET NO. 21 OF 29

CROSS REFERENCE

ITEM	SHEET NOs.
COVER	1
GENERAL NOTES AND TYPICAL DETAILS	2 – 3
TYPICAL SECTIONS	4
GEOMETRIC LAYOUT	5 – 6
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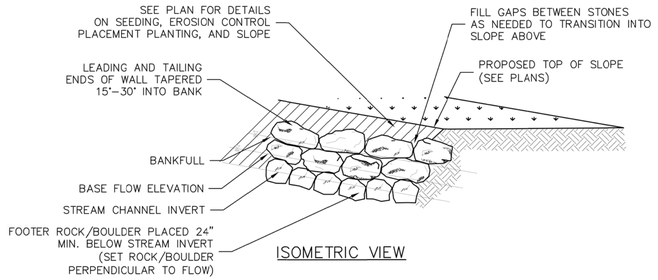
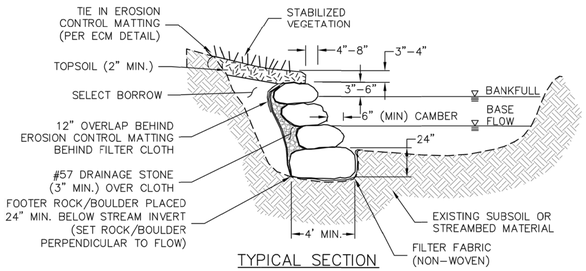
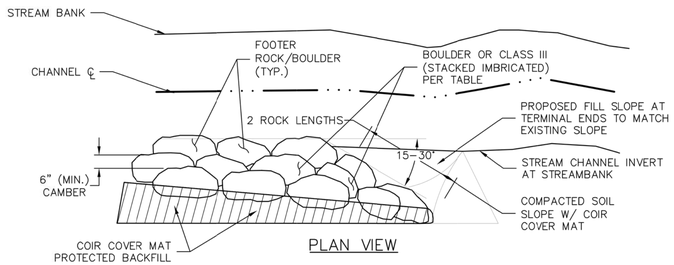
PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 - Safe Routes to School Sidewalks\CAD\dwg\OS01-03 OUTFALL STABILIZATION SHEETS.dwg



ISOMETRIC VIEW



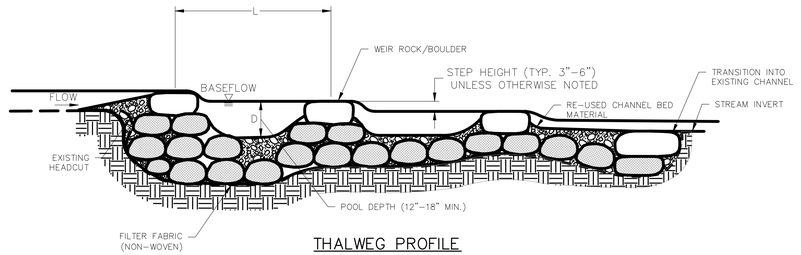
TYPICAL SECTION



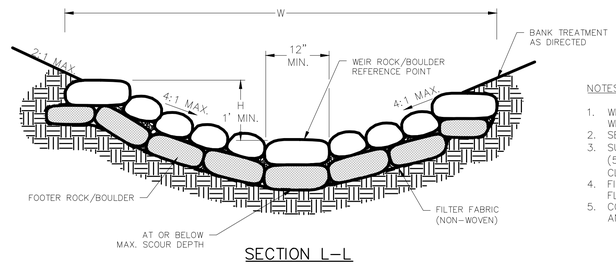
PLAN VIEW

IMBRICATED RIPRAP WALL (IRR) TABLE										
STR.#	STA.	OFFSET	TOP ELEV.	BOTTOM ELEV.	TOP ROCKS MIN. DIMENSIONS			FOOTER ROCK MIN. DIMENSIONS		
					LENGTH (L)	HEIGHT (H)	WIDTH (W)	LENGTH (L)	HEIGHT (H)	WIDTH (W)
					12" – 18"	16"–20"	18"–24"	24"–30"	24"–30"	36"–48"

1 IMBRICATED RIP-RAP DETAIL
NOT TO SCALE



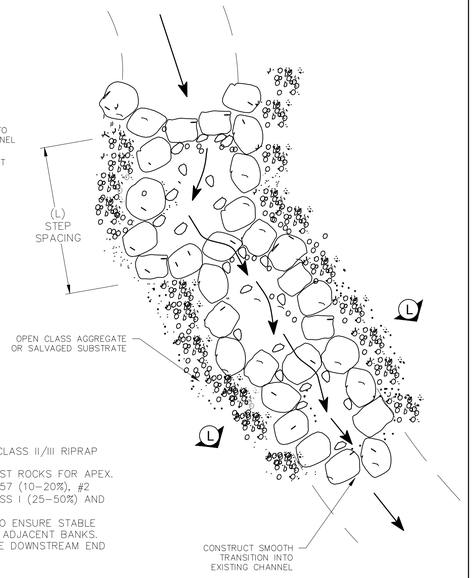
THALWEG PROFILE



SECTION L-L

NOTES:

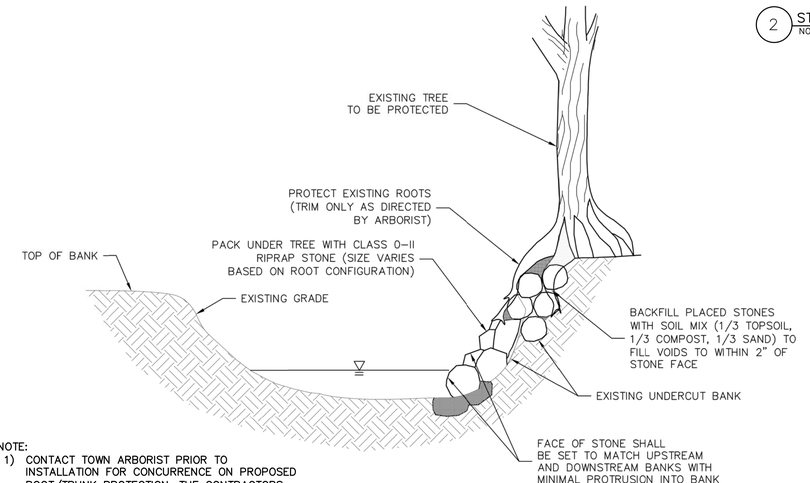
1. WEIR AND FOOTER ROCKS TO BE CLASS II/III RIPRAP WITH ANGULAR SHAPE.
2. SELECT WEIR ROCKS TO BE LARGEST ROCKS FOR APEX.
3. SUBSTRATE SHALL BE A MIX OF #57 (10–20%), #2 (5–25%), CLASS O (15–30%), CLASS I (25–50%) AND CLASS II (0–15%).
4. FIELD ADJUST ROCK PLACEMENT TO ENSURE STABLE FLOW PATH AND TRANSITION INTO ADJACENT BANKS.
5. CONSTRUCTION WILL START ON THE DOWNSTREAM END AND WORK UPSTREAM.



PLAN VIEW – STEP POOL

STEP POOL TABLE													
STR. #	STA.	OFFSET	TOP ELEV.	L (STEP SPACING)	H	W	D	TOP ROCKS MIN. DIMENSIONS			FOOTER ROCK MIN. DIMENSIONS		
								LENGTH (L)	HEIGHT (H)	WIDTH (W)	LENGTH (L)	HEIGHT (H)	WIDTH (W)
				15'	3'	10'	12"	12" – 18"	16" – 20"	12" – 18"	12" – 18"	16" – 20"	20" – 24"

2 STEP POOL DETAIL
NOT TO SCALE



NOTE:
1) CONTACT TOWN ARBORIST PRIOR TO INSTALLATION FOR CONCURRENCE ON PROPOSED ROOT/TRUNK PROTECTION. THE CONTRACTORS CERTIFIED TREE EXPERT SHALL MAKE RECOMMEDATIONS IN WRITING TO THE TOWN FOR ROOT/TRUNK PROTECTION.
2) CONTRACTOR SHALL USE EXTREME CAUTION WHEN PLACING ROCKS IN AND AROUND ROOTS.
3) DO NOT USE FILTER FABRIC

3 ROCK PACK DETAIL
NOT TO SCALE

ESC/SWM SHEET 10 OF 11

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

OUTFALL STABILIZATION DETAILS

SCALE N.T.S. ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME COUNTY MONTGOMERY
DRAWN BY ME LOGMILE
CHECKED BY JA HORIZONTAL SCALE
F.A.P. NO. TBD VERTICAL SCALE

DRAWING NO. OS-02 OF 3 SHEET NO. 22 OF 29

CROSS REFERENCE	
ITEM	SHEET NOs.
COVER	1
GENERAL NOTES AND TYPICAL DETAILS	2 – 3
TYPICAL SECTIONS	4
GEOMETRIC LAYOUT	5 – 6
SIDEWALK PLANS	7 – 11
ADA ENLARGEMENTS	12 – 13
EROSION & SEDIMENT CONTROL PLANS	14 – 18
EROSION & SEDIMENT CONTROL DETAILS	19
EROSION & SEDIMENT CONTROL NOTES	20
OUTFALL STABILIZATION PLAN AND DETAILS	21 – 23
TREE PROTECTION PLANS	24 – 28
TREE PROTECTION DETAILS	29

REVISIONS

CLARK | AZAR & ASSOCIATES
20410 Century Blvd, Suite 230
Germantown, MD. 20874
T(301) 528-2010
www.clarkazar.com
A Woman Owned Small Business

PROFESSIONAL CERTIFICATION:
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

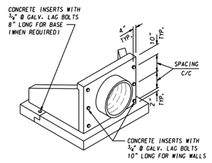
LICENSE NO. 31168

EXPIRATION DATE: 1/12/2019

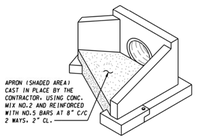
STATE OF MARYLAND JASON AZAR 31168 REGISTERED PROFESSIONAL ENGINEER 9/20/17

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 - Safe Routes to School Sidewalks\CAD\dwg\OS01-03 OUTFALL STABILIZATION SHEETS.dwg

DRILL HOLES
DRILL HOLES
DRILL HOLES



ISOMETRIC VIEW 1



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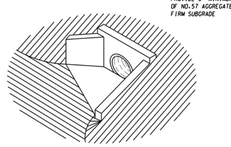
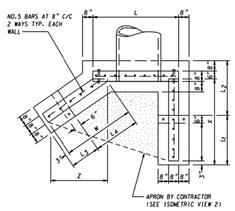
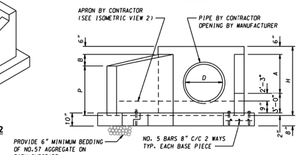


ISOMETRIC VIEW 3



PLAN



ELEVATION

NOTES

1. THIS TYPE F ENDWALL SHALL NOT BE USED WITHIN THE CLEAR RECOVERY ZONE.
2. CONCRETE SHALL BE MIX NO.6 (4500 PSI).
3. REINFORCEMENT SHALL BE DEFORMED BARS AS SHOWN OR WELDED WIRE FABRIC WITH AN EQUIVALENT AREA PER SQUARE FOOT. DEFORMED BARS SHALL CONFORM TO ASTM A 615, GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND A 82.
4. SEE CHARTS ON STANDARD NO 358.05 FOR DIMENSIONS NOT SHOWN.
5. LIFT HOLES OR LIFT EYES SHALL BE PROVIDED FOR HANDLING.
6. EXCAVATION, BACKFILL, CONCRETE, REINFORCEMENT FOR APRON, AND NO.57 AGGREGATE WILL BE INCIDENTAL TO THE CONTRACT PRICE PER EACH FOR THE ENDWALL.
7. CHAMFER ALL EXPOSED EDGES 1"x1" OR AS DIRECTED.

SPECIFICATION	CATEGORY CODE ITEMS
305	

APPROVED

DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA	APPROVAL ▪ REVISIONS	APPROVAL ▪ FEDERAL HIGHWAY ADMINISTRATION
	APPROVAL	APPROVAL
	REVISED	REVISED
	REVISED	REVISED
	REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
MODIFIED
PRECAST TYPE F ENDWALL
METAL OR CONCRETE ROUND PIPE

DETAIL NO. **358.04**

PIPE SIZE D	DIMENSIONS – SLOPE 1½:1											LAG BOLTS FOR WING WALLS	
	L	X	L_1	L_2	W	L_3	L_4	Z	H	A	B	P	SPACING C/C	NO. REQ. EA. WALL
12"	4'-2"	1'-5"			1'-11"	–	–	1'-8"	2'-9"	10"	2"	2'-1"	1'-7"	2
15"	4'-9"	1'-10"	–	–	2'-5"	–	–	2'-1"	3'-0"	1'-1"	4"	2'-2"	1'-10"	2
18"	5'-0"	2'-3"	–	–	2'-8"	–	–	2'-4"	3'-4"	1'-5"	5"	2'-5"	2'-2"	2
21"	5'-3"	2'-8"	–	–	2'-10"	–	–	2'-7"	3'-7"	1'-8"	6"	2'-7"	2'-5"	2
24"	5'-7"	8'-0"	5'-5"	4'-0"	3'-5"	–	–	2'-11"	3'-10"	1'-11"	8"	2'-8"	1'-4"	3
27"	5'-10"	3'-5"	–	–	3'-11"	–	–	3'-5"	4'-1"	2'-2"	10"	2'-9"	1'-5½"	3
30"	6'-2"	3'-10"	1'-3"	4'-0"	4'-2"	1'-5"	3'-0"	3'-7"	4'-5"	2'-6"	11"	3'-0"	1'-7½"	3
33"	6'-5"	4'-4"	1'-9"	4'-0"	4'-7"	1'-10"	3'-0"	3'-11"	4'-8"	2'-9"	1'-0"	3'-2"	1'-9"	3
36"	6'-8"	4'-8"	2'-1"	4'-0"	4'-10"	2'-1"	3'-0"	4'-2"	4'-11"	3'-0"	1'-2"	3'-3"	1'-10½"	3
42"	7'-4"	5'-6"	2'-11"	4'-0"	5'-7"	2'-10"	3'-0"	4'-10"	5'-6"	3'-7"	1'-5"	3'-7"	2'-2"	3
48"	8'-0"	6'-4"	3'-9"	4'-0"	6'-3"	3'-6"	3'-0"	5'-5"	6'-0"	4'-1"	1'-8"	3'-10"	2'-5"	3

PIPE SIZE D	DIMENSIONS – SLOPE 2:1											LAG BOLTS FOR WING WALLS	
	L	X	L_1	L_2	W	L_3	L_4	Z	H	A	B	P	SPACING C/C	NO. REQ. EA. WALL
12"	3'-3"	2'-0"	–	–	2'-1"	–	–	1'-10"	2'-9"	10"	1"	2'-2"	1'-7"	2
15"	3'-6"	2'-7"	–	–	2'-7"	–	–	2'-3"	3'-0"	1'-1"	3"	2'-3"	1'-10"	2
18"	3'-9"	3'-1"	–	–	2'-11"	–	–	2'-6"	3'-4"	1'-5"	4"	2'-6"	2'-2"	2
21"	4'-0"	3'-7"	–	–	3'-3"	–	–	2'-10"	3'-7"	1'-8"	5"	2'-8"	2'-5"	2
24"	5'-0"	4'-2"	1'-7"	4'-0"	3'-7"	–	–	3'-1"	3'-10"	1'-11"	6"	2'-10"	1'-4"	3
27"	5'-3"	4'-8"	2'-1"	4'-0"	4'-1"	1'-4"	3'-0"	3'-6"	4'-1"	2'-2"	8"	2'-11"	1'-5½"	3
30"	5'-6"	5'-3"	2'-8"	4'-0"	4'-5"	1'-8"	3'-0"	3'-10"	4'-5"	2'-6"	9"	3'-2"	1'-7½"	3
33"	5'-9"	5'-9"	3'-2"	4'-0"	4'-10"	2'-1"	3'-0"	4'-2"	4'-8"	2'-9"	11"	3'-3"	1'-9"	3
36"	6'-0"	6'-4"	3'-9"	4'-0"	5'-2"	2'-5"	3'-0"	4'-6"	4'-11"	3'-0"	1'-0"	3'-5"	1'-10½"	3
42"	6'-6"	7'-5"	4'-10"	4'-0"	6'-0"	3'-3"	3'-0"	5'-2"	5'-6"	3'-7"	1'-3"	3'-9"	2'-2"	3
48"	7'-0"	8'-6"	5'-11"	4'-0"	6'-9"	4'-0"	3'-0"	5'-10"	6'-0"	4'-1"	1'-6"	4'-0"	2'-5"	3

PIPE SIZE D	DIMENSIONS – SLOPE 4:1											LAG BOLTS FOR WING WALLS	
	L	X	L_1	L_2	W	L_3	L_4	Z	H	A	B	P	SPACING C/C	NO. REQ. EA. WALL
12"	3'-3"	4'-4"	1'-8"	4'-0"	2'-4"	–	–	2'-0"	2'-9"	10"	1"	2'-2"	1'-7"	2
15"	3'-6"	5'-5"	2'-10"	4'-0"	2'-11"	–	–	2'-6"	3'-0"	1'-1"	2½"	2'-5½"	1'-10"	2
18"	3'-9"	6'-6"	3'-11"	4'-0"	3'-4"	–	–	2'-11"	3'-4"	1'-5"	3"	2'-7"	2'-2"	2
21"	4'-4"	7'-7"	5'-0"	4'-0"	3'-7"	–	–	3'-1"	3'-7"	1'-8"	4"	2'-9"	2'-5"	2
24"	5'-0"	8'-8"	6'-1"	4'-0"	4'-0"	1'-3"	3'-0"	3'-6"	3'-10"	1'-11"	4½"	2'-11½"	1'-4"	3
27"	5'-3"	9'-4"	6'-9"	4'-0"	4'-7"	1'-10"	3'-0"	3'-6"	4'-1"	2'-2"	6"	3'-1"	1'-5½"	3
30"	5'-6"	10'-0"	7'-5"	4'-0"	5'-2"	2'-3"	3'-0"	4'-4"	4'-5"	2'-6"	7"	3'-4"	1'-7½"	3
33"	5'-9"	11'-6"	8'-11"	4'-0"	5'-6"	2'-9"	3'-0"	4'-9"	4'-8"	2'-9"	8"	3'-6"	1'-9"	3
36"	6'-0"	13'-0"	10'-5"	4'-0"	5'-11"	3'-2"	3'-0"	5'-2"	4'-11"	3'-0"	9"	3'-8"	1'-10½"	3
42"	6'-6"	15'-2"	12'-7"	4'-0"	7'-0"	4'-3"	3'-0"	6'-1"	5'-6"	3'-7"	1'-0"	4'-0"	2'-2"	3
48"	7'-0"	17'-4"	14'-9"	4'-0"	7'-11"	5'-2"	3'-0"	6'-10"	6'-0"	4'-1"	1'-2"	4'-4"	2'-5"	3

SPECIFICATION	CATEGORY CODE ITEMS
305	

APPROVED

DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA	APPROVAL ▪ REVISIONS	APPROVAL ▪ FEDERAL HIGHWAY ADMINISTRATION
	APPROVAL	APPROVAL
	REVISED	REVISED
	REVISED	REVISED
	REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
MODIFIED
PRECAST TYPE F ENDWALL DIMENSIONS
METAL OR CONCRETE ROUND PIPE

DETAIL NO. **358.05**

ESC/SWM SHEET 11 OF 11

CLARK | AZAR & ASSOCIATES
20410 Century Blvd, Suite 230
Germantown, MD. 20874
T(301) 528-2010
www.clarkazar.com
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PROFESSIONAL CERTIFICATION:
I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NO. 31168

EXPIRATION DATE: 1/12/2019

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

CROSS REFERENCE	
ITEM	SHEET NOs.
COVER	1
GENERAL NOTES AND TYPICAL DETAILS	2 – 3
TYPICAL SECTIONS	4
GEOMETRIC LAYOUT	5 – 6
SIDEWALK PLANS	7 – 11
ADA ENLARGEMENTS	12 – 13
EROSION & SEDIMENT CONTROL PLANS	14 – 18
EROSION & SEDIMENT CONTROL DETAILS	19
EROSION & SEDIMENT CONTROL NOTES	20
OUTFALL STABILIZATION PLAN AND DETAILS	21 – 23
TREE PROTECTION PLANS	24 – 28
TREE PROTECTION DETAILS	29

REVISIONS

OUTFALL STABILIZATION DETAILS

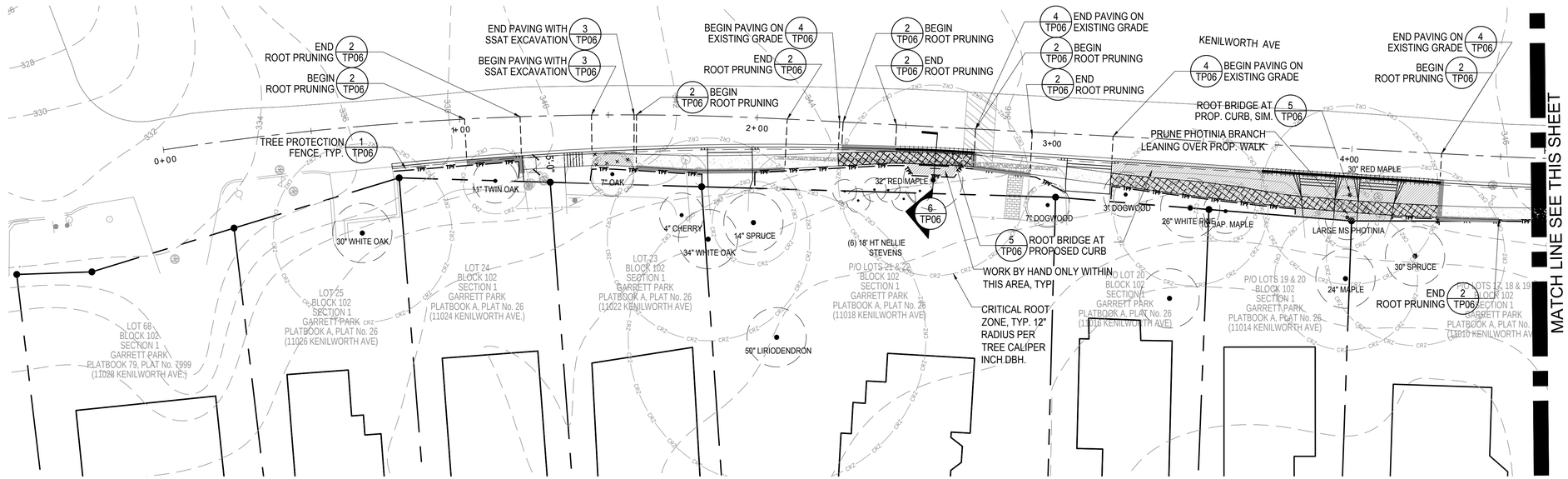
SCALE N.T.S. ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME
DRAWN BY ME
CHECKED BY JA
F.A.P. NO. TBD
COUNTY MONTGOMERY
LOGMILE
HORIZONTAL SCALE
VERTICAL SCALE

DRAWING NO. OS-03 OF 3
SHEET NO. 23 OF 29

PLOTTED:3/6/2017 11:39 AM
FILE:J:\91140.04 – Safe Routes to School Sidewalks\CAD\dwg\OS01-03 OUTFALL STABILIZATION SHEETS.dwg

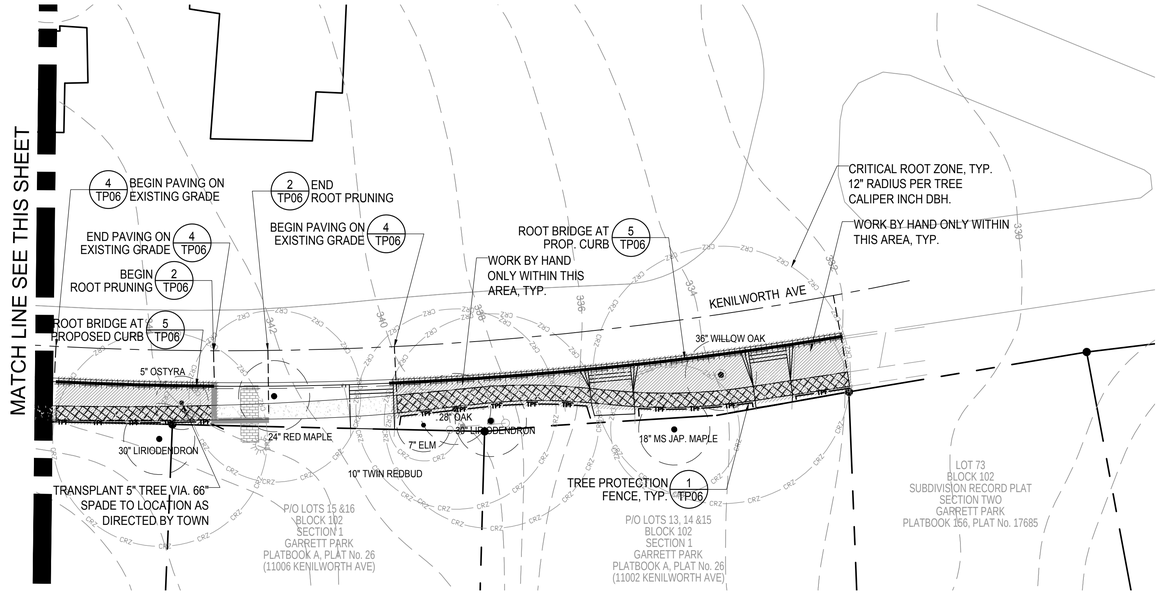
DRILL HOLES
DRILL HOLES
DRILL HOLES



1 TREE PROTECTION PLAN

SCALE 1"=20'-0"

0 10 20 40 60



2 TREE PROTECTION PLAN

SCALE 1"=20'-0"

0 10 20 40 60

3 LEGEND

SCALE 1"=20'-0"

- 3 TP301 AREA OF PAVING WITH SSAT EXCAVATION
- AREA OF WORK BY HAND ONLY
- 4 TP301 PAVING ON EXISTING GRADE
- 5 TP301 ROOT BRIDGE AT PROPOSED CURB
- 1 TP301 TEMPORARY TREE PROTECTION FENCING
- CRITICAL ROOT ZONE 1" CAL. DBH = 12" RADIUS
- 2 TP301 ROOT PRUNING
- 35" RED OAK — EXISTING TREE
- TREE REMOVAL, SEE DEMO. PLAN

GENERAL NOTES:

1. EXISTING CONDITION INFORMATION SHOWN ON PLANS PROVIDED BY CLARK AZAR & ASSOCIATES 6/29/2017 BASED ON GIS DATA AVAILABLE FROM MONTGOMERY PLANNING.

2. TREE LOCATIONS, SIZES, AND IDENTIFICATION INDICATED ON PLANS TAKEN FROM 65% PLAN SUBMISSION BY CRAIG RICHMOND LANDSCAPE ARCHITECTURE DATED OCT. 2015 AND SUPPLEMENTED WITH LIMITED INFORMATION COLLECTED BY LSG LANDSCAPE ARCHITECTURE ON JULY 12 AND 21, 2017.

3. TREE PROTECTION PLANS PREPARED IN DECEMBER 2017 AND JANUARY 2018 BY DAVE NORDEN, MARYLAND REGISTERED LANDSCAPE ARCHITECT AND ISA CERTIFIED ARBORIST.

4.

5. REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

LSG LANDSCAPE ARCHITECTURE

1775 GREENSBORO STATION PL
SUITE 110
TYSONS, VIRGINIA 22102
703-821-2045

CROSS REFERENCE

ITEM	SHEET NOs.
COVER	1
GENERAL NOTES AND TYPICAL DETAILS	2 - 3
TYPICAL SECTIONS	4
GEOMETRIC LAYOUT	5 - 6
SIDEWALK PLANS	7 - 11
ADA ENLARGEMENTS	12 - 13
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TREE PROTECTION DETAILS	29

REVISIONS

TOWN OF GARRETT PARK

PEDESTRIAN FACILITY DESIGN SERVICES

SAFE ROUTES TO SCHOOL (SRTS)

TREE PROTECTION PLAN

SCALE 1" = 20' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME COUNTY MONTGOMERY
DRAWN BY ME LOGMILE
CHECKED BY JA HORIZONTAL SCALE
F.A.P. NO. TBD VERTICAL SCALE

DRAWING NO. TP-01 5 OF SHEET NO. X OF 29

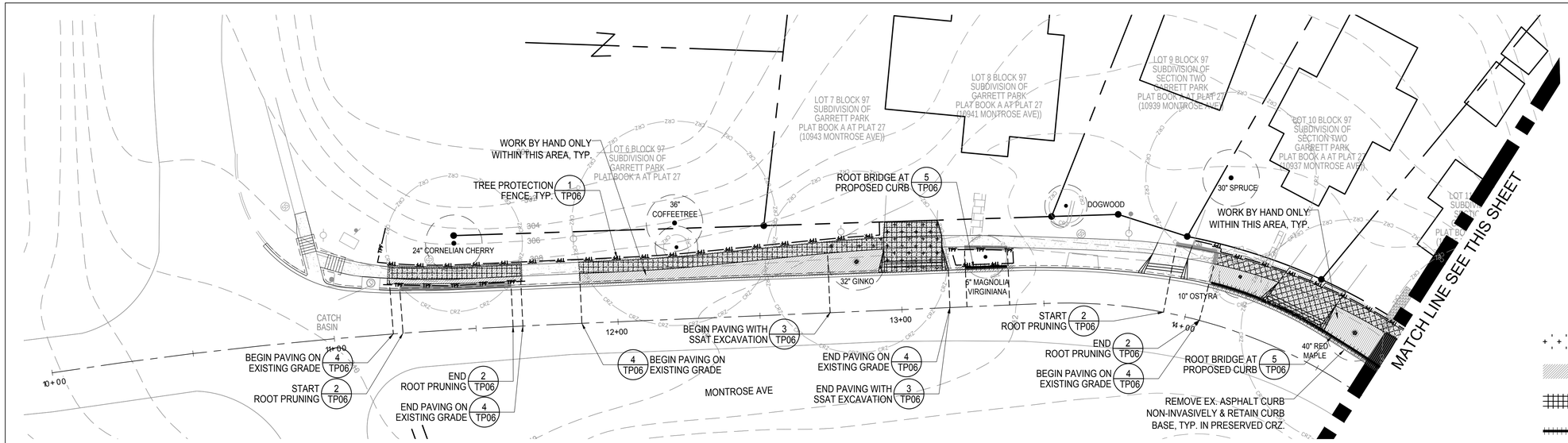
PLOTTED: 3/6/2017 11:39 AM
FILE: G:\2016\16137.00 - Garrett Park Safe Routes to School\01 Caddocs\TP01-06 TREE PROTECTION SHEETS.dwg

DRILL HOLES
DRILL HOLES
DRILL HOLES

DRILL HOLES

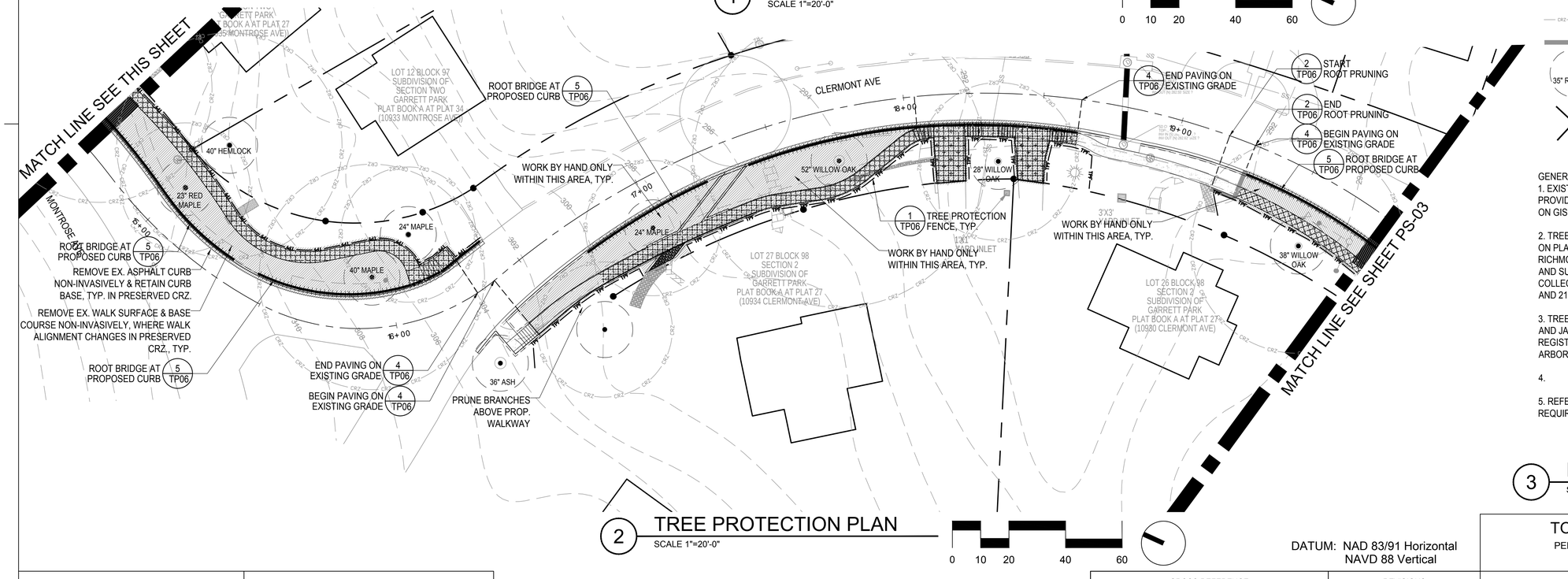
DRILL HOLES

DRILL HOLES



1 TREE PROTECTION PLAN
SCALE 1"=20'-0"

0 10 20 40 60



2 TREE PROTECTION PLAN
SCALE 1"=20'-0"

0 10 20 40 60

- 3 / TP301 — AREA OF PAVING WITH SSAT EXCAVATION
- AREA OF WORK BY HAND ONLY
- 4 / TP301 — PAVING ON EXISTING GRADE
- 5 / TP301 — ROOT BRIDGE AT PROPOSED CURB
- 1 / TP301 — TEMPORARY TREE PROTECTION FENCING
- CRZ — CRZ — CRITICAL ROOT ZONE 1" CAL. DBH = 12" RADIUS
- 2 / TP301 — ROOT PRUNING
- EXISTING TREE (e.g. 35" RED OAK)
- TREE REMOVAL, SEE DEMO. PLAN

GENERAL NOTES:

1. EXISTING CONDITION INFORMATION SHOWN ON PLANS PROVIDED BY CLARK AZAR & ASSOCIATES 6/29/2017 BASED ON GIS DATA AVAILABLE FROM MONTGOMERY PLANNING.

2. TREE LOCATIONS, SIZES, AND IDENTIFICATION INDICATED ON PLANS TAKEN FROM 65% PLAN SUBMISSION BY CRAIG RICHMOND LANDSCAPE ARCHITECTURE DATED OCT. 2015 AND SUPPLEMENTED WITH LIMITED INFORMATION COLLECTED BY LSG LANDSCAPE ARCHITECTURE ON JULY 12 AND 21, 2017.

3. TREE PROTECTION PLANS PREPARED IN DECEMBER 2017 AND JANUARY 2018 BY DAVE NORDEN, MARYLAND REGISTERED LANDSCAPE ARCHITECT AND ISA CERTIFIED ARBORIST.

4.

5. REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

3 LEGEND
SCALE 1"=20'-0"

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

LSG LANDSCAPE ARCHITECTURE

1775 GREENSBORO STATION PL
SUITE 110
TYSONS, VIRGINIA 22102
703-821-2045

CROSS REFERENCE

REVISIONS

TOWN OF GARRETT PARK

PEDESTRIAN FACILITY DESIGN SERVICES

SAFE ROUTES TO SCHOOL (SRTS)

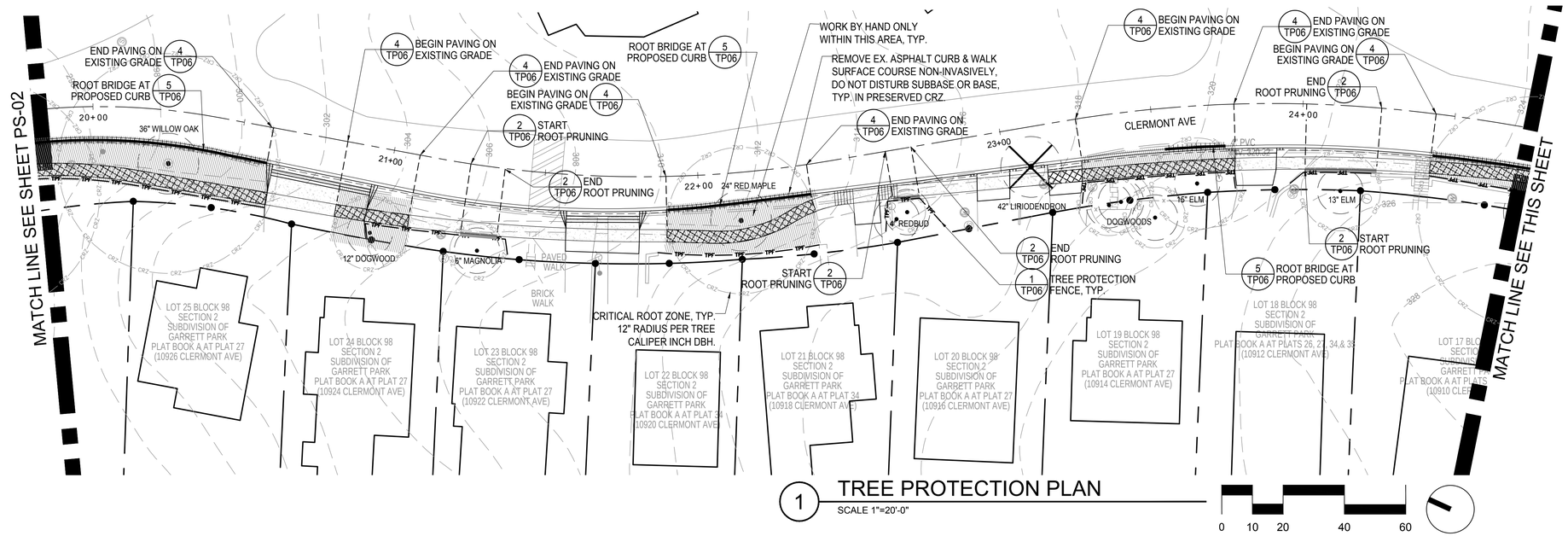
TREE PROTECTION PLAN

SCALE 1" = 20' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME COUNTY MONTGOMERY
DRAWN BY ME LOGMILE
CHECKED BY JA HORIZONTAL SCALE
F.A.P. NO. TBD VERTICAL SCALE

DRAWING NO. TP-02 OF 5 SHEET NO. X OF 29

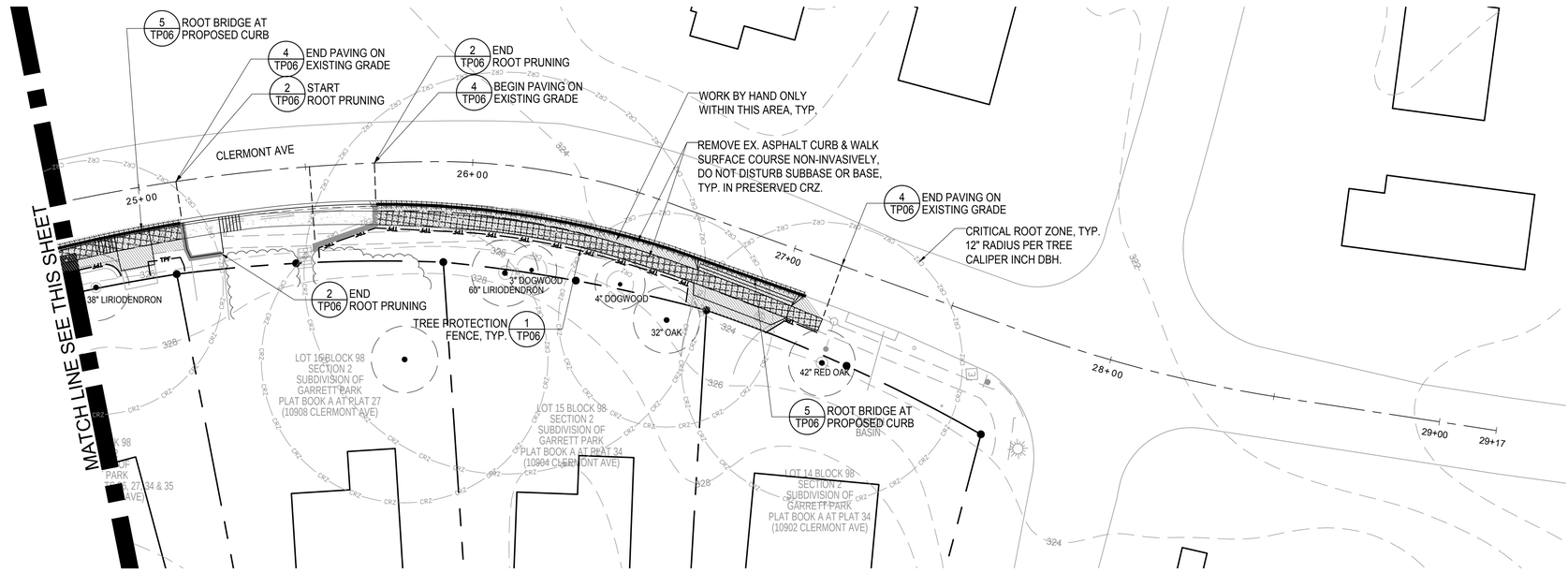
PLOTTED: 3/6/2017 11:39 AM
FILE: G:\2016\16137.00 - Garrett Park Safe Routes to School\01 Caddocs\TP01-06 TREE PROTECTION SHEETS.dwg



1 TREE PROTECTION PLAN

SCALE 1"=20'-0"

0 10 20 40 60



2 TREE PROTECTION PLAN

SCALE 1"=20'-0"

0 10 20 40 60

- 3 TP301 AREA OF PAVING WITH SSAT EXCAVATION
- AREA OF WORK BY HAND ONLY
- 4 TP301 PAVING ON EXISTING GRADE
- 5 TP301 ROOT BRIDGE AT PROPOSED CURB
- 1 TP301 TEMPORARY TREE PROTECTION FENCING
- CRITICAL ROOT ZONE 1" CAL. DBH = 12" RADIUS
- 2 TP301 ROOT PRUNING
- 35" RED OAK EXISTING TREE
- TREE REMOVAL, SEE DEMO. PLAN

GENERAL NOTES:

1. EXISTING CONDITION INFORMATION SHOWN ON PLANS PROVIDED BY CLARK AZAR & ASSOCIATES 6/29/2017 BASED ON GIS DATA AVAILABLE FROM MONTGOMERY PLANNING.

2. TREE LOCATIONS, SIZES, AND IDENTIFICATION INDICATED ON PLANS TAKEN FROM 65% PLAN SUBMISSION BY CRAIG RICHMOND LANDSCAPE ARCHITECTURE DATED OCT. 2015 AND SUPPLEMENTED WITH LIMITED INFORMATION COLLECTED BY LSG LANDSCAPE ARCHITECTURE ON JULY 12 AND 21, 2017.

3. TREE PROTECTION PLANS PREPARED IN DECEMBER 2017 AND JANUARY 2018 BY DAVE NORDEN, MARYLAND REGISTERED LANDSCAPE ARCHITECT AND ISA CERTIFIED ARBORIST.

4.

5. REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

3 LEGEND

SCALE 1"=20'-0"

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

LSG LANDSCAPE ARCHITECTURE

1775 GREENSBORO STATION PL
SUITE 110
TYSONS, VIRGINIA 22102
703-821-2045

CROSS REFERENCE

REVISIONS

TOWN OF GARRETT PARK

PEDESTRIAN FACILITY DESIGN SERVICES

SAFE ROUTES TO SCHOOL (SRTS)

TREE PROTECTION PLAN

SCALE 1" = 20' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME COUNTY MONTGOMERY
DRAWN BY ME LOGMILE
CHECKED BY JA HORIZONTAL SCALE
F.A.P. NO. TBD VERTICAL SCALE

DRAWING NO. TP-03 5OF SHEET NO. X OF 29

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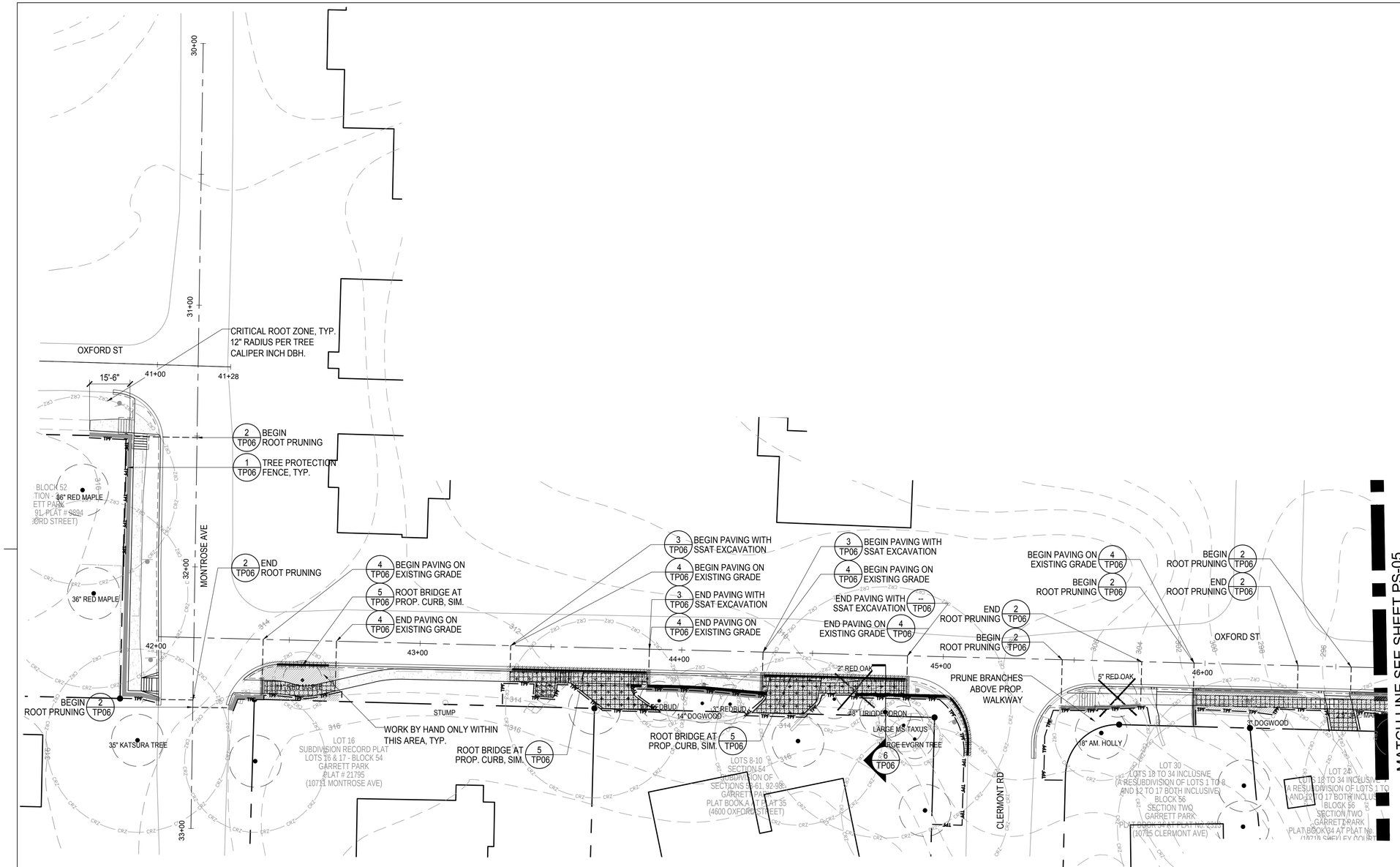

1 TREE PROTECTION PLAN
SCALE 1"=20'-0"

0 10 20 40 60

3 TP301 AREA OF PAVING WITH SSAT EXCAVATION

AREA OF WORK BY HAND ONLY

4 TP301 PAVING ON EXISTING GRADE

5 TP301 ROOT BRIDGE AT PROPOSED CURB

1 TP301 TEMPORARY TREE PROTECTION FENCING

CRZ CRITICAL ROOT ZONE
1" CAL. DBH = 12" RADIUS

2 TP301 ROOT PRUNING

EXISTING TREE

35" RED OAK

TREE REMOVAL, SEE DEMO. PLAN

GENERAL NOTES:
1. EXISTING CONDITION INFORMATION SHOWN ON PLANS PROVIDED BY CLARK AZAR & ASSOCIATES 6/29/2017 BASED ON GIS DATA AVAILABLE FROM MONTGOMERY PLANNING.

2. TREE LOCATIONS, SIZES, AND IDENTIFICATION INDICATED ON PLANS TAKEN FROM 65% PLAN SUBMISSION BY CRAIG RICHMOND LANDSCAPE ARCHITECTURE DATED OCT. 2015 AND SUPPLEMENTED WITH LIMITED INFORMATION COLLECTED BY LSG LANDSCAPE ARCHITECTURE ON JULY 12 AND 21, 2017.

3. TREE PROTECTION PLANS PREPARED IN DECEMBER 2017 AND JANUARY 2018 BY DAVE NORDEN, MARYLAND REGISTERED LANDSCAPE ARCHITECT AND ISA CERTIFIED ARBORIST.

4.

5. REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

2 LEGEND
SCALE 1"=20'-0"

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

LSG LANDSCAPE ARCHITECTURE

1775 GREENSBORO STATION PL
SUITE 110
TYSONS, VIRGINIA 22102
703-821-2045

CROSS REFERENCE

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COVER	1
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TYPICAL SECTIONS	4
GEOMETRIC LAYOUT	5 - 6
SIDEWALK PLANS	7 - 11
ADA ENLARGEMENTS	12 - 13
EROSION & SEDIMENT CONTROL PLANS	14 - 18
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REVISIONS

TOWN OF GARRETT PARK

PEDESTRIAN FACILITY DESIGN SERVICES

SAFE ROUTES TO SCHOOL (SRTS)

TREE PROTECTION PLAN

SCALE 1" = 20' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME COUNTY MONTGOMERY
DRAWN BY ME LOGMILE
CHECKED BY JA HORIZONTAL SCALE
F.A.P. NO. TBD VERTICAL SCALE

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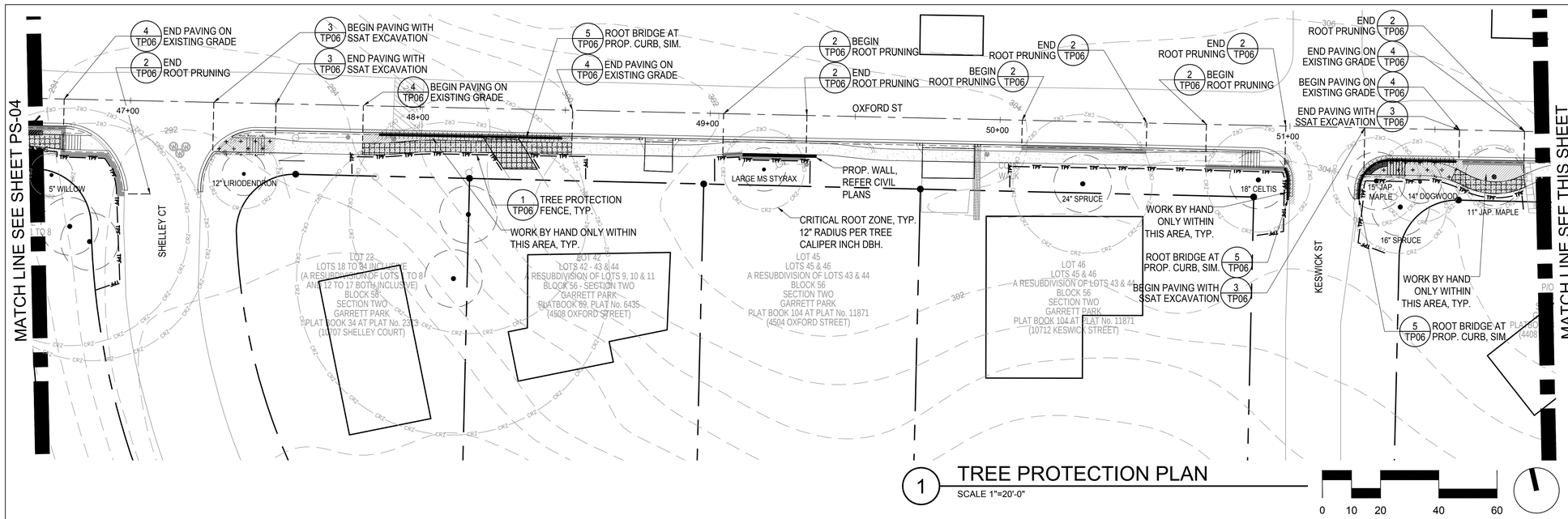
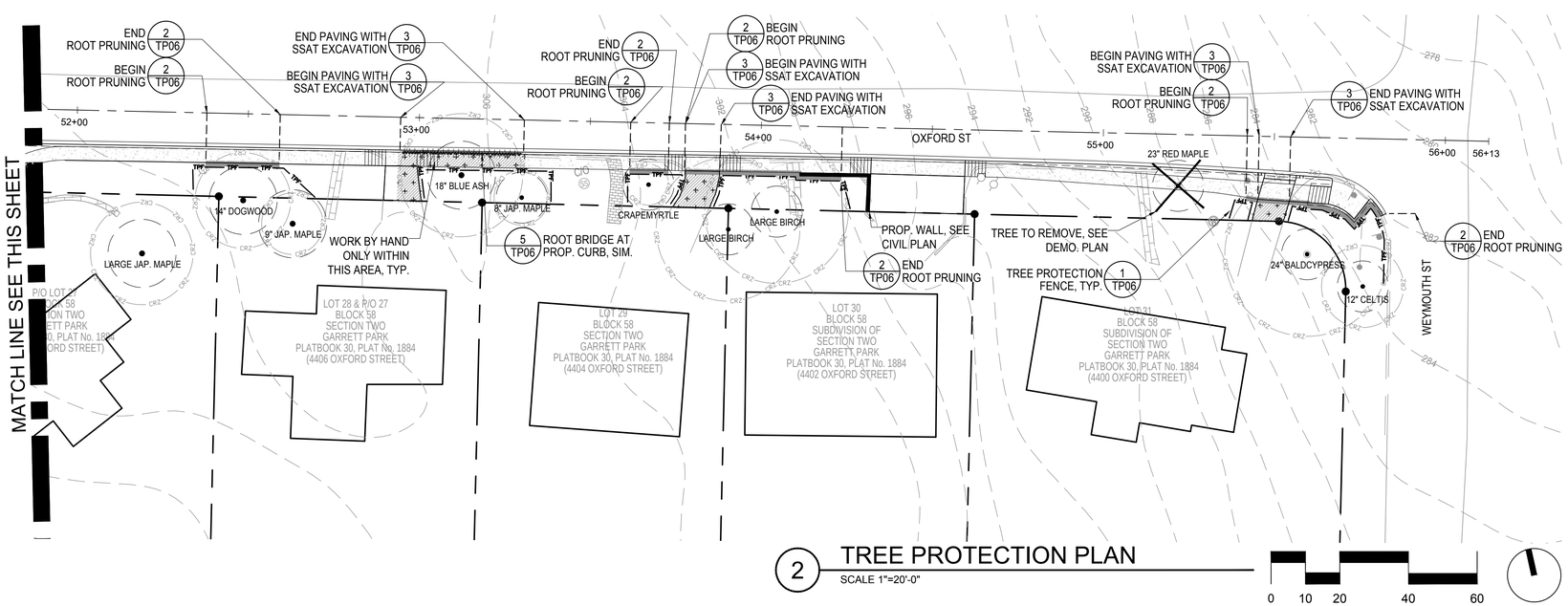


1 TREE PROTECTION PLAN

SCALE 1"=20'-0"



2 TREE PROTECTION PLAN

SCALE 1"=20'-0"

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

3 AREA OF PAVING WITH SSAT EXCAVATION (3 TP301)

AREA OF WORK BY HAND ONLY

4 PAVING ON EXISTING GRADE (4 TP301)

5 ROOT BRIDGE AT PROPOSED CURB (5 TP301)

1 TEMPORARY TREE PROTECTION FENCING (1 TP301)

CRITICAL ROOT ZONE
1" CAL. DBH = 12" RADIUS

2 ROOT PRUNING (2 TP301)

EXISTING TREE

35" RED OAK

TREE REMOVAL,
SEE DEMO. PLAN

GENERAL NOTES:

1. EXISTING CONDITION INFORMATION SHOWN ON PLANS PROVIDED BY CLARK AZAR & ASSOCIATES 6/29/2017 BASED ON GIS DATA AVAILABLE FROM MONTGOMERY PLANNING.

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4.

5. REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

3 LEGEND

SCALE 1"=20'-0"

LSG LANDSCAPE ARCHITECTURE

1775 GREENSBORO STATION PL
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CROSS REFERENCE

REVISIONS

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

TREE PROTECTION PLAN

SCALE 1" = 20' ADVERTISED DATE OCT. 2017 CONTRACT NO. TBD

DESIGNED BY ME COUNTY MONTGOMERY
DRAWN BY ME LOGMILE
CHECKED BY JA HORIZONTAL SCALE
F.A.P. NO. TBD VERTICAL SCALE

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DRILL HOLES
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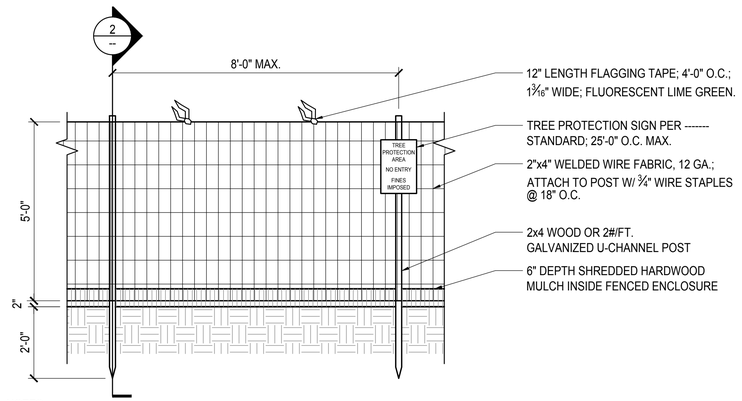
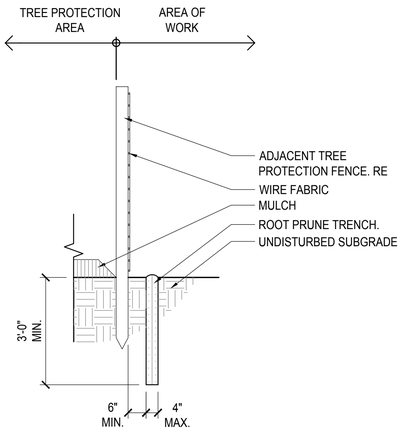


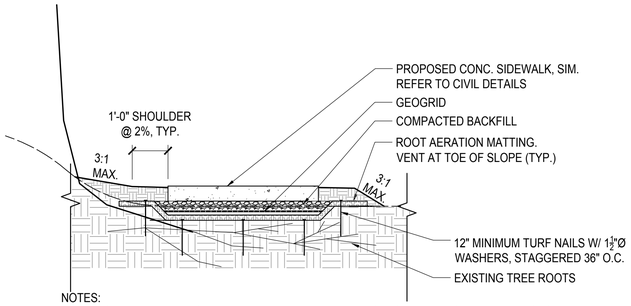
NOTES:
1. INSTALL PROTECTION FENCING AT LOCATIONS INDICATED ON TP PLANS PRIOR TO STORAGE OF MATERIALS AND START OF DEMOLITION AND OTHER WORK FOR EACH SECTION THAT IS TO BEGIN. FENCING MAY BE REMOVED UPON WRITTEN APPROVAL BY OWNER'S REPRESENTATIVE THAT THE RESPECTIVE SECTION HAS BEEN COMPLETED AND ACCEPTED.
2. REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

1 TREE PROTECTION FENCE
1/2"=1'-0"



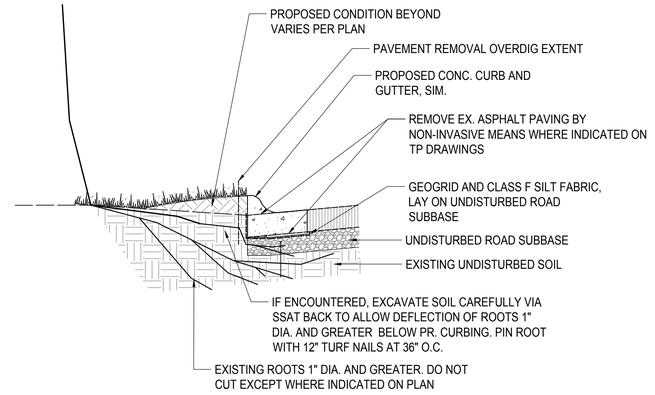
NOTES:
1. INSTALL ROOT PRUNE TRENCH AND PRUNE BY WHEEL SAW OR SSAT AIRSPADE & HAND PRUNING ONLY. BACKFILL W/ TOPSOIL W/IN (1) HOUR.

2 ROOT PRUNE TRENCH - SECTION
1/2"=1'-0"



NOTES:
1. FOR ALL OTHER WORK WITHIN TREE PROTECTION ZONES, REFER TO SPECIFICATIONS.
2. EXCAVATE BY SUPERSONIC AIR TOOL TO ROOT REFUSAL DEPTH.
3. SANDWICH ROOT AERATION MATTING BETWEEN 2 LAYERS OF CLASS F SILT FABRIC (NOT SHOWN).

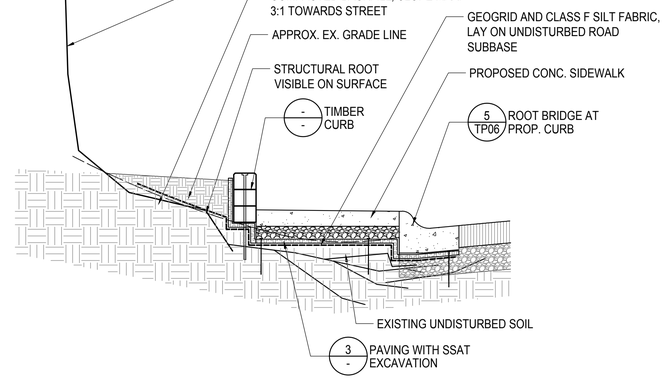
3 PAVING WITH SSAT EXCAVATION
1/2" = 1'-0"



5 ROOT BRIDGE AT PROPOSED CURB
1/2" = 1'-0"

NOTES:
1. FOR ALL OTHER WORK WITHIN TREE PROTECTION ZONES, REFER TO SPECIFICATIONS.
2. SANDWICH ROOT AERATION MATTING BETWEEN 2 LAYERS OF CLASS F SILT FABRIC (NOT SHOWN).

4 ROOT BRIDGE ON EXISTING GRADE
1/2" = 1'-0"



6 SECTION
1/2" = 1'-0"

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

TOWN OF GARRETT PARK
PEDESTRIAN FACILITY DESIGN SERVICES
SAFE ROUTES TO SCHOOL (SRTS)

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REVISIONS

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DESIGNED BY ME COUNTY MONTGOMERY
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